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**CAPITAL CONTROLS, TWO-TIERED EXCHANGE RATE
SYSTEMS AND EXCHANGE RATE POLICY:
THE SOUTH AFRICAN EXPERIENCE**

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Capital Controls, Two-Tiered Exchange Rate Systems and Exchange Rate Policy: The South African Experience

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Abstract

South Africa's 40 years of experience with capital controls on residents and non-residents (1961-2001) reads like a collection of examples of perverse unanticipated effects of legislation and regulation. We show that the presence of capital controls on residents and non-residents, enabled the South African Reserve Bank (SARB) to target domestic interest rates (and or the exchange rate) via interventions in the (commercial) foreign exchange market. This provides an early rationale for anchoring SA monetary policy via the exchange rate, rather than via domestic interest rates. This suggests not only that the capital controls themselves exhibited substantial institutional inertia, but that this same institutional inertia also applied to the monetary policy regime. A plausible reason for this is that for most of the 20th century in South Africa (partial) capital controls and exchange rate based monetary policies were like Siamese twins; almost impossible to separate.

Keywords: Capital controls, dual exchange rate systems

JEL codes: E42, E61, E65, F32, F33, F41

1. INTRODUCTION

As pointed out by Farrell and Todani (2004), the debate regarding the use of capital controls has a long history, and tends to be revived with each new round of crises. This has indeed been the case in recent years. Events in East-Asia in 1997-98 appear to have softened attitudes towards the use of controls on capital flows, which had turned negative since the 1980s.

In this paper our focus is firmly on South Africa and its 40 odd years of experience with capital controls. Here we build on important previous work published under the aegis of the South African Reserve Bank by Farrell (2001) and Farrell and Todani (2004). The approach that we follow is both historical and analytical. The latter implies the use throughout this paper of some simple international arbitrage conditions building on previous work by Huizinga (1996). The use of the analytical framework enables us to focus more clearly on the place of capital controls in the overall monetary policy mix.

Huizinga (1996) makes the general point that multiple exchange rate practices, or generally any official selling or buying of foreign exchange at a rate different from the 'equilibrium' rate, have long been recognized to be quasi-fiscal activities as they immediately impact on the public finances. In fact, multiple exchange rate systems can be interpreted as a set of separate taxes on international capital flows and goods trade. He investigates the taxation of residents implicit in South Africa's dual exchange rate system between 1973 and 1995 and finds that South Africa seems to have subsidized capital inflows, with negative return implications of around 1 percent of GDP a year. In addition, he finds that the South African government achieved substantial debt service savings that seemed to have outweighed the costs of subsidized international lending.

Huizinga assumes that South Africa's two-tiered exchange system that was in place from the sixties till 1995 (with the exception of a short-lived period of exchange market unification from February 1983 to August 1995) was an example of a straightforward two-tier exchange rate system that channeled all current account transactions through the commercial rand market and all capital account transactions through the financial market. However, the reality of the system was more complicated. For example, according to the financial rand system that was in place between January 1979 and February 1983 and between September 1985 and February 1995 all loan funds were to be transferred via the commercial market (that is the capital as well as the interest payments which would usually have been included in the current account).

In this paper we allow for more historical detail with respect to the mechanics and historical evolution of South Africa's dual exchange rate system. In addition we show how this system was the unintended consequence of the imposition by the SA authorities of controls on capital outflows by non-residents in 1961 (following the events associated with Sharpeville), with the aim of protecting SA's gold and foreign exchange reserves.

As pointed out by Rob Norton, the law of unintended consequences, often cited but rarely defined, is that actions of people—and especially of government—always have

effects that are unanticipated or "unintended."¹ Economists and other social scientists have heeded its power for centuries; for just as long, politicians and popular opinion have largely ignored it. The concept of unintended consequences is one of the building blocks of economics. Adam Smith's "invisible hand," the most famous metaphor in social science, is an example of a positive unintended consequence. Most often, however, the law of unintended consequences illuminates the perverse unanticipated effects of legislation and regulation.²

South Africa's 40 years of experience with capital controls on residents and non-residents (1961-2001) reads like a collection of examples of perverse unanticipated effects of legislation and regulation. Of course, those unintended consequences can add so much to the costs of those policies that they make the policies unwise even if they achieve their stated goals. Further we show that the presence of capital controls on residents and non-residents, enabled the South African Reserve Bank (SARB) to target domestic interest rates (and or the exchange rate) via interventions in the (commercial) foreign exchange market. This provides an early rationale for anchoring SA monetary policy via the exchange rate, rather than via domestic interest rates. This suggests not only that the capital controls themselves exhibited substantial institutional inertia, but that this same institutional inertia also applied to the monetary policy regime. A plausible reason for this is that for most of the 20th century in South Africa (partial) capital controls and exchange rate based monetary policies were like Siamese twins; almost impossible to separate.

The remainder of this paper is organized as follows. Section 2 discusses and assesses the blocked rand system. The securities and financial rand systems follow in Sections 3, 4 and 5. Section 6 analyzes the abolishment of the financial rand system and the associated further relaxation of exchange controls Section 7 concludes.

2.1 THE BLOCKED RAND SYSTEM

As pointed out by Gidlow (1976, pp 84-85), the blocked rand system was largely based on the measures taken in 1961 following Sharpeville which led to a considerable outflow of capital funds and a serious decline in the gold and foreign exchange reserves.³ Stricter overall control – on an administrative/direct basis - over capital transfers from South Africa was introduced with the aim of providing more effective protection for the foreign reserves at the same time reducing the danger of a threat to internal growth and stability by monetary developments transmitted through the balance of payments.

¹Rob Norton is a columnist for *eCompany Now* magazine and was previously the economics editor of *Fortune* magazine. The quoted document is available on <http://www.econlib.org/library/Enc/UnintendedConsequences.html#biography>.

² In 1692 John Locke, the English philosopher and a forerunner of modern economists, urged the defeat of a parliamentary bill designed to cut the maximum permissible rate of interest from 6 percent to 4 percent. Locke argued that instead of benefiting borrowers, as intended, it would hurt them. People would find ways to circumvent the law, with the costs of circumvention borne by borrowers. To the extent the law was obeyed, Locke concluded, the chief results would be less available credit and a redistribution of income away from "widows, orphans and all those who have their estates in money."

³ Note the similarity of policy responses between the Sharpeville and 1985 debt crisis situations. In both cases stricter controls on capital transfers from South Africa were imposed as a (intentionally temporary) crisis-measures to stem outflows.

The most important measure taken at the time concerned the introduction of restrictions on the repatriation of funds previously invested in South Africa by non-residents (foreigners). Thus, apart from the prohibition on South Africans (residents) transferring funds abroad, foreigners found that although they could still sell local securities on the Johannesburg Stock Exchange (JSE), in terms of the Exchange Control Regulations introduced in 1961 the proceeds of sales of South African assets⁴ by non-residents were blocked within South Africa, and deposited in blocked rand accounts in the name of the foreigner at a commercial bank. The funds so deposited were called ‘blocked rand’.⁵ [Farrell and Todani (2004), hereafter FT and Gidlow (1976)].

To illustrate how the mechanism worked, consider the following example. Specifically, let e_t be the commercial (official) exchange rate (expressed as rand per dollar) in period t ($t = 1, 2$).

Suppose a non-resident investor owns R 1000 worth (25 X R40) of De Beers shares in period 1, and would like to disinvest from the JSE in period 2. Without any controls on outflows, this would lead to transactions 1 and 2 below.

Non-resident portfolio in period 1	
De Beers (25 X R 40)	R 1000
Transaction 1: Non-resident disinvests from JSE in period 2	
De Beers	-R 1000
Rand	+ R 1000
Transaction 2: Non-resident sells rand for dollars on FX market in period 2	
Rand	- R 1000
US\$	$+1000 * \left(\frac{1}{e_2} \right)$

However, under the blocked rand system, transaction 2 does not materialize. The rand balance under 1 was deposited in blocked rand accounts with commercial banks and thus became blocked rand. However, the balances could be repatriated under certain circumstances. Those are investigated later.

This means that notional demand for dollars (and supply of rand) did not materialize on the commercial market for rand. Thus, the official (commercial) exchange rate of the rand was insulated from selling pressures that would be initiated by non-residents selling SA securities, and was therefore most likely to be substantially overvalued with respect to the hypothetical level of the exchange rate in the absence of aforementioned controls.

⁴ Quoted or unquoted shares, gilts, semi-gilts or property [Farrell and Todani (2004, p. 19)].

⁵ Gidlow (1976) points out that blocked rand balances were principally held by non-resident brokers, financial institutions and individuals who, although living abroad, had left money in South Africa.

Using e_t^{FLOAT} for the corresponding (counterfactual) equilibrium exchange rate under a clean float (in the absence of capital controls), then we have

$$e_2 < e_2^{FLOAT} \quad (1)$$

indicating that the (counterfactual) equilibrium rate would be trading at a discount vis-à-vis the official rate, i.e. that the commercial rate is overvalued.

As pointed out by FT (2004, pp 5-6), the blocked rand balances could only be repatriated under certain circumstances; in general

- (i) non-residents could use blocked rand to purchase shares quoted on the JSE, which could be endorsed, exported and sold outside the country, say, in London (and if the new non-resident owner of the shares sold them in South Africa, blocked rand were again created).
- (ii) the non-resident could use the blocked rand to purchase government, municipal and public utility stocks with a maturity of five years or more. Once these had been held for at least five years, they could be repatriated at the official (commercial) exchange rate.
- (iii) the non-resident could use the blocked rand to take up special non-resident bonds with five year maturities issued by the government. These could again be repatriated at the official (commercial) exchange rate on maturity.

Therefore, as pointed out by Gidlow (1976, p. 85), blocked rand has therefore been eligible for investment only in particular types of South African securities; it has not been freely convertible into other currencies and has also not been freely transferable from one non-resident to another.

In line with (i), there was no restriction on using blocked rand in one account for the purchase of local securities and the subsequent sale of those securities to another resident for another currency, say dollars, and then the subsequent sale in South Africa by the new holder, thus resulting in the blocked rand be held for a different account.

This is explained via example 2. Specifically, let b_t be the blocked rand exchange rate (expressed as rand per dollar) in period t ($t = 1, 2$), and $p_J(p_L)$ be the share price of De Beers in Johannesburg (London) in rand (dollar).

A non-resident holder of blocked rand uses them to purchase De Beers shares in Johannesburg. In terms of the earlier example this brings us to the following balance sheet

Non-resident # 1 initial position in period 1	
De Beers (25 X R 40)	R 1000

He then sells those shares in London to a UK stockbroker. Suppose that the price of De Beers in London is \$10 then we have the following balance sheet mutations.

Transaction 1a: Non-resident # 1 disinvests from SA shares and sells in London in period 2	
De Beers	-R 1000
US\$	+ 250
Transaction 1b: Non-resident # 2 (UK stockbroker) invests in SA shares and buys in London in period 2	
De Beers	+R 1000
US\$	- 250

Note that the implicit ‘blocked’ rand exchange rate in period 2, b_2 , is $\frac{P_J}{P_L} = R40/\$10$
= R4 per dollar.

If non-resident # 2 in turn would sell his shares on the JSE (see transaction 1c below) the proceeds would become blocked rand again.

Transaction 1c: Non-resident # 2 disinvests from JSE in period 2	
De Beers	-R 1000
Blocked Rand	+ R 1000

In the latter case the net effect of transactions 1a-1c is that blocked rand balances have been transferred from non-resident # 1 to non-resident # 2 (in exchange for dollars at the implicit blocked rand exchange rate of R4 per dollar, i.e. $b_2 = 4$) via the London and Johannesburg stock exchanges.

As can be seen from this example, while the composition of the stock of assets held by non-residents could be altered and individual non-residents could disinvest from the country (here non-resident #1), the key characteristic of the blocked (later ‘financial’) rand system was that non-residents as a group (the ‘total stock’ would remain the same) could not (FT, p. 14).

More generally, Gidlow (1976, p. 85) points out that the fact that blocked rand balances could be used to purchase shares quoted on the JSE, which could be endorsed, exported and sold outside the country enabled London stockbrokers – unofficial market dealers - to make a market for blocked rands (to quote the rand at a price against the U.S. dollar) where the relevant monies were freely transferred between non-residents using a method known as ‘gilt-wash’. As pointed out by FT, this parallel market could be characterised as legal, although not officially recognised. Via the so-called ‘gilt-wash’ method, a de facto second currency emerged.⁶ We illustrate the functioning of the method with example 3 below (adapted from FT).

A non-resident holder of blocked rand uses them to purchase gilt securities from a SA financial institution through a local stockbroker. The stockbroker sourced the

⁶ Gidlow (1976, p. 87) points out that the blocked rand market was a (more) limited market (than the official market). Note that the size (liquidity) of this market was of course constrained by the number of (local) SA equities that had London stock quotations.

securities from the South African financial institution who lent the securities (SA government bonds) to the local (SA) stockbroker in return for a commission (this is the phenomenon known as ‘securities lending’). The stockbroker then sells the scrip⁷ to his or her London counterpart (non-resident # 2) for dollars⁸ (the London stockbroker makes the market by quoting a price for blocked rand in dollars). The London broker duly sells the scrip back to the local broker, who in turn sells it back to the financial institution.

The dollars go to non-resident # 1, and the London broker (non-resident # 2) has an account in South Africa credited with blocked rand. Thus we have the following balance sheet mutations.

Non-resident # 1 portfolio in period 1	
Gilt securities	+ R 1000
Blocked Rand	– R 1000
Transaction 1a: Non-resident # 1 disinvests from SA gilts and sells in London in period 2	
Gilt securities	–R 1000
US\$	$+1000 * \left(\frac{1}{b_2} \right)$
Transaction 1b: Non-resident # 2 (UK stockbroker) invests in SA gilts and buys in London in period 2	
Gilt securities	+R 1000
US\$	$-1000 * \left(\frac{1}{b_2} \right)$
Transaction 1c: Non-resident # 2 sells SA gilts in SA in period 2	
Gilt securities	–R 1000
Blocked Rand	+ R 1000

As explained by FT (2004, p. 6) despite the number of transactions listed here, in practice no physical movement of scrip took place (SA financial institutions essentially ‘lent’ gilts⁹ in return for a commission). As before, the net effect of transactions 1a-1c is that blocked rand balances have been transferred from non-resident # 1 to non-resident # 2 – the London stockbroker - (in exchange for dollars at the parallel exchange rate) via London and Johannesburg brokers.¹⁰

⁷ Shorthand for subscription; i.e. provisional certificate (subscribed to company/issuer) entitling holder to formal certificate and dividends/interest. As pointed out by FT, gilts were used in preference to ordinary shares because of their lower brokerage rates and greater availability.

⁸ FT formulate their example in terms of sterling.

⁹ This method of transferring funds arose because under local exchange control regulations blocked rand balances could not be transferred to another non-resident without the transfer of scrip and relevant brokers’ notes.

¹⁰ Gidlow (1976, p. 89) points out that the method of transferring blocked rands using the ‘gilt wash’ method was normally used when a broker was buying blocked rands from an individual; if brokers wished to transfer balances between themselves then it was probably easier and less complicated to do this by dealing through the share market.

FT (2004, p. 6) note that blocked rand were not freely transferable from one non-resident to another. It has been argued that the authorities were not willing to allow this since it would have granted official recognition to the floating blocked rand exchange rate, an action which it seemed undesirable in an era of fixed exchange rates. More specific, Gidlow (1976, p. 87) states that the recognition of a second exchange rate, which would normally have been lower than the official rate, would not benefit South Africa's image abroad at a time when the attachment to fixed exchange rates was strong, and might cast suspicion on the maintenance of the official exchange rate for the rand.

Note that under the blocked rand system a non-resident investor has two options if he or she wanted to invest in SA securities. Route 1 is to buy dollars on the official FX market and exchange the latter for SA securities. This route is illustrated by the first row of Table 2.1 below (the second row indicates the corresponding disinvestment).¹¹ Alternatively, the investor could first buy SA securities listed in London with dollars, sell the securities in Johannesburg and get blocked rand in return (row 3).

Table 2.1 The Basic Mechanics of the Blocked Rand System (Options Available to Non-Residents)

1. Cash FX market (Johannesburg) channel via official FX dealers:	a. Buy rand:	Non-resident sells 1 dollar →			→ Non-resident receives e_1 rand
	b. Sell rand (unless generated by sales of SA securities, then go to 2b):	Non-resident sells 1 rand →			→ Non-resident receives $\text{US\$} \left(\frac{1}{e_1} \right)$
2. Stock exchanges (London) channel via brokers:	a. Buy blocked rand:	Non-resident sells 1 dollar →	Buy SA securities listed in London (L) at \$ p_L →	Sell SA securities in Johannesburg (J) at R p_J →	→ Non-resident receives $b_1 = \frac{p_J}{p_L}$ <u>blocked rand</u>
	b. Sell blocked rand:	Non-resident sells 1 blocked rand →	Buy SA securities listed in Johannesburg (J) at R p_J →	Sell SA securities in London (L) at \$ p_L →	→ Non-resident receives $\text{US\$} \left(\frac{1}{b_1} \right) = \frac{p_L}{p_J}$

Obviously, the investor would choose the direct (indirect) route if the commercial rate was weaker (stronger) than the blocked rate, i.e. if $e_1 > (<) b_1$.¹²

¹¹ Obviously, by disinvesting from South Africa financial rand were 'created'. Conversely, when financial rand balances were used to purchase these assets, financial rand were 'destroyed' (in the sense that they became ordinary commercial rands in the hands of the South African seller). This situation was complicated by the fact that financial rand were also created when the authorities redesignated commercial rand as financial rand in order to allow residents access to the market [Farell and Todani (2004, p. 19)].

¹² In addition, Gidlow (1976, p. 91) points out that some non-residents might have been unwilling to deal directly with Johannesburg for political reasons. This would have boosted demand for blocked rand, and ceteris paribus decreased the blocked rand discount.

Gidlow (1976, p. 85) states that the typical pricing on the parallel market was such that the blocked rand generally traded at a discount to (was weaker than) the commercial (official) exchange rate, or,

$$b = \frac{p_J}{p_L} > e \quad (2)$$

The reasons for this persistent blocked rand discount phenomenon can be clearly inferred from equation (2). According to Gidlow (1976, p. 86), they were

- (i) a relative lack of London demand for SA shares – weak direct foreign interest in local shares - (low p_L) matched by
- (ii) a tendency for local buying (associated with capital controls on residents that inhibited off-shore investments by residents), which has tended to push prices on the Johannesburg exchange to a premium (high p_J).

Gidlow (1976) notes that there has been no direct counteraction to this tendency since London has been pre-empted from taking advantage of the premium on Johannesburg prices as any proceeds so realized are blocked.¹³

Also the continuance of the blocked rand discount has been aided by the fact that non-resident companies wishing to repatriate funds abroad following, for instance the sales of assets here but refused exchange control permission to use the official foreign exchange market facilities, have been forced to channel these funds through the blocked rand market by buying securities locally and selling overseas, thus widening the discount.¹⁴ So, in general following FT (2004, p. 6) we can say that the discount reflected the relative demands for South African shares by residents and non-residents, and the existence of exchange controls on both sets of transactors.

2.2 THE BLOCKED RAND SYSTEM: EVALUATION

Let us now evaluate South Africa's first experience with capital controls. The objectives of the blocked rand system were to prevent sudden capital outflows via the official foreign exchange market. The reason was that any potential large-scale capital outflows stemming from, say, transient political factors could cause the gold and foreign exchange reserves to fall substantially.¹⁵

The way the controls on outflows were supposed to work can be seen fairly easily by inspecting the relevant accounts of the balance of payments. Those are reported in Table 2.2 below.

¹³ Conversely, it has been very unusual for the blocked rand to go to a premium since then it would become cheaper for the US investor to remit funds directly to South Africa at the ruling official exchange rate to buy shares.

¹⁴ Thus, it appears that to some extent the discount could be affected by the SA authorities as stricter (looser) application of exchange control regulations on non-residents would increase (decrease) the supply of blocked rand and hence widen (narrow) the discount with respect to the official rate.

¹⁵ Which in turn under a completely stable exchange rate for the rand – such as the gold standard - automatically translated into tighter domestic liquidity conditions.

Table 2.2 Home (Reporting) Country's Major Balance of Payments Accounts*

1 Exports of goods and services (+) ¹ Merchandise Services Travel, insurance, banking etc. <i>Home</i> income from assets held abroad: interest, dividends etc.	
2 Imports of goods and services (-) Merchandise Services Travel, insurance, banking etc. <i>Foreign</i> investors' income from assets in the home country: interest, dividends etc.	
3 Unilateral transfers ((-) = net outflow) -----+	
	4 Current account (= 1 + 2 + 3)
5 Private home assets abroad, net (increase = capital outflow (-)) Direct investment Portfolio investment	
6 Private foreign assets in home (reporting) country, net (increase = capital inflow (+)) Direct investment Portfolio investment -----+	
	7 Capital account (5 + 6) -----+
	8 Change in foreign exchange reserves held by home central bank² (4 + 7, increase = (-))

* We abstract from statistical discrepancies and special drawing rights (SDRs).

¹ Credit items – those that earn foreign exchange – enter with a plus sign while all debit items enter with a negative sign.

² Also known as the official settlements balance, or the balance of official financing.

It is clear from Table 2.2 above that the blocked rand system mainly related to capital account item 6.¹⁶ Importantly, decreases in 6 were discouraged due to controls on non-residents. In this sense, the capital account of the BOP (item 7) was (partly) insulated from capital flows.¹⁷

As a consequence of the above, the blocked rand system also insulated the country's foreign exchange reserves from capital outflows. The reason is that a country's change in foreign reserves is by definition given by the sum of current and capital account mutations – with the latter being directly affected by exchange controls:

¹⁶ Increases in 5 were discouraged due to controls on residents.

¹⁷ Farrell (2001) claims that theoretical analysis of controls suggest that they should reduce the volatility of exchange rates. He quotes Dornbusch and Kuenzler (1993, p. 10), who say that 'In a dual exchange rate system the commercial rate remains stable, whereas the free rate reflects the instability of portfolio holders' expectations, and hence of capital flows'

Capital account (5 + 6) (7)

Current account (4)

Change in foreign exchange reserves held by home central bank² (4 + 7, increase = (-)) (8)

In addition, because of the blocked rand system capital outflows – notional demand for dollars - did not translate into effective demand for dollars, thus insulating the official (commercial) exchange rate from selling pressures that would have been initiated by non-residents selling SA securities. This in turn implied an overvalued official rate vis-à-vis the hypothetical level of the exchange rate in the absence of capital controls.

However, as we have shown in this Section, an unintended consequence of the blocked rand system – which at the time was considered to be an emergency short-term measure - was the emergence of a legal (although not officially recognized) parallel foreign exchange market. This can be nicely illustrated with a quote from De Kock, later to be governor of the South African Reserve Bank (FT, p. 4):

‘We never thought at the time that we were instituting a dual exchange rate system. We thought we were simply applying exchange control, blocking funds of non-residents ... We did talk about it at the time. I mean even in those days there were people in South Africa who had heard of dual exchange rate systems, and there were some suggestions that we should, in fact, institute a *formal* dual exchange rate system. But we decided against this, partly because the extended exchange control was considered to be a *temporary* crisis measure (emphasis in the original).’

Note that the authorities cannot have been very thrilled with the emergence of the parallel market, as at that time South Africa operated under the aegis of Bretton Woods that is under a system of fixed exchange rates.¹⁸ Now, the parallel market implied the existence of a floating parallel exchange rate (for portfolio investments); an alien and probably unwelcome species at the time.

Further, the forces of demand and supply (of blocked rand) in the parallel market dictated that since its inception in 1961 the blocked rand traded at a discount to the official commercial exchange rate.¹⁹

This meant that new (net) overseas investors (such as those from the US) in repatriating funds from South Africa through the share market had therefore consistently been obliged to accept a capital loss equivalent to the differential between the official rand/dollar exchange rate and the blocked rand rate. [Gidlow (1976, p. 86)].

This can be made more explicit by considering the following example. Suppose a US investor has the choice of investing 1 dollar in the US with a return i^* , or in South Africa with a return i . We assume that the investor invests for one period (where the initial new inflow goes through the commercial market, that is he or she uses the

¹⁸ After the demise of Bretton Woods, South Africa operated an exchange rate policy for the rand characterized by fairly frequent changes in the rand's parity against the dollar.

¹⁹ Except for very brief periods when a slight premium emerged.

direct/Johannesburg channel), after which principal and interest are repatriated at the blocked rand exchange rates. Then the US investor would prefer to invest in SA if:

$$\frac{e_1}{b_2}(1+i) > 1+i^* \quad (3)$$

Equation (3) is the relevant arbitrage relationship facing a non-resident investor. Now, for the moment we abstract from interest ($i = i^* = 0$) and assume that $b_2 = 4$ and $e_1 = 3$ (as in our earlier examples). Then, it is clear that the capital loss on repatriation is $\$ \left(1 - \frac{e_1}{b_2}\right) = \0.25 . So, indeed the capital loss is proportional to the discount of the blocked rate versus the official rate.

However, it stands to reason that instead of accepting a capital loss the US investor would like to be compensated for the expected capital loss implied by the discount. Put differently, in equilibrium the arbitrage relationship above should be seen as an equality, and can be rearranged as

$$1+i = \frac{b_2}{e_1}(1+i^*) \quad (4)$$

Equation (4) above looks very similar to the usual uncovered interest parity (UIP) condition. This can be seen by taking logs on both sides, which yields

$$i = i^* + b_2 - e_1 \quad (5)$$

(where all symbols are now natural logs), and says that for a non-resident investor to be indifferent between investing in SA or US assets, the expected one-period return on SA assets should be equal to the overseas dollar return plus the expected depreciation of the blocked rate versus the commercial rate.

Using modern terminology (see Figure 2.1 below) we can say that the required return on SA assets –SA's cost of debt - consisted of two basic components: (i) the foreign ('risk-free') interest rate i^* , plus (ii) a risk premium, which here consists of a 'currency premium' $b_2 - e_1$.²⁰

²⁰ For an analysis on the relation between the currency (or risk) premium in South Africa and its exchange rate regime, see Schaling (2004).

Figure 2.1 Cost of Debt for an Emerging Market Borrower*

$$\begin{array}{l} \text{COST OF DEBT} = \\ \text{RISK-FREE RATE} \\ + \\ \text{TOTAL RISK PREMIUM} \end{array} \quad \left\{ \begin{array}{l} 1) \text{ CURRENCY PREMIUM} \\ 2) \text{ PURE DEFAULT PREMIUM} \\ 3) \text{ JURISDICTION PREMIUM} \\ \text{OTHER PREMIUM FOR} \\ \text{ILLIQUID MARKETS} \end{array} \right.$$

* Source: Grandes, Peter and Pinaud (2003)

Note that in turn the currency premium is the sum of (i) the (expected) rate of depreciation of the blocked rand and (ii) the blocked rate discount (hereafter called ρ) versus the commercial rate. This can be seen by writing the currency premium as

$$b_2 - e_1 = (b_2 - b_1) + (b_1 - e_1) = (b_2 - b_1) + \rho_1$$

Thus, the currency premium goes up if today's discount ρ_1 increases and/or if non-residents expect the blocked rand to weaken in the future. Note that the latter appears to be an important 'expectations channel', whereby expectations of a weaker (stronger) blocked rate in the future (in period 2) imply a lower (higher) required rate of return by non-residents on SA assets.

So, capital controls on outflows (initially in the form of 'blocked rand' accounts) in South Africa led to the emergence of a parallel foreign exchange market, which via the currency premium drove up sovereign debt costs in South Africa. Therefore, another unintended effect of the blocked rand system was to increase the cost of capital for the South African economy.

However, there were further adverse effects of the controls. Because of the existence of a persistent discount, if a non-resident wanted to invest in SA assets it would be cheaper to transfer dollar funds into rand (i) indirectly, namely to find another non-resident that wanted to disinvest from the country – who had a supply of blocked rand that he wanted to sell – rather than (ii) directly, i.e. to buy rand on the official foreign exchange (cash) market.²¹

However, because of the existence of the discount in case of (i), investment into South Africa, say by non-resident # 2, can only proceed if non-resident # 2 – who is 'in the market' to buy blocked rand – can be matched with a seller, say resident # 1, of blocked rand. This means that the investment in South Africa by non-resident # 2 is matched with a disinvestment by non-resident # 1 of a similar amount. Thus, a very

²¹ In terms of the two-period examples above, case (ii) corresponds with arbitrage inequality (3). However, because of the existence of the discount, (3) is now not the relevant condition. As the initial inflow now goes through the London market (after which interest and principal are still repatriated at the blocked rate), the relevant inequality that governs whether a non-resident investor would prefer to

$$\text{invest in South Africa now becomes: } \frac{b_1}{b_2}(1+i) > 1+i^* \quad (6)$$

important effect of the blocked rand system was that there could be no net investment into South Africa via the blocked rand!

This phenomenon continued to raise its ugly head well into the 1990s - then under the flag of the financial rand system - FT (2004, p. 13) illustrate this disadvantage of the system by quoting Governor Stals [SARB (1980)]:

‘[I]nvestments in South Africa by non-residents with financial rand do not benefit the balance of payments. The mechanism only enables non-residents as a group to shift existing investments in South Africa from one application to another’

The realities of the blocked rand system were thus that there could be no net investment into South Africa via the blocked rand (the closed pool argument).

Net investment – that would boost the country’s foreign exchange earnings - could only come into South Africa through the commercial market. However, that would only be attractive for non-residents in the counterfactual case of the blocked rand trading at a premium vis-à-vis the official exchange rate (in terms of the two-period examples if $e_1 > b_1$), or in terms of our familiar arbitrage conditions if

$$\frac{e_1}{b_2}(1+i) > \frac{b_1}{b_2}(1+i) > 1+i^* \quad (7)^{22}$$

So, it appears that another unintended effect of the controls on outflows was that they turned into serious implicit quantity restrictions on net capital inflows (especially U.S. and European portfolio investment) which did not exactly benefit foreign reserves and the Johannesburg Stock Exchange.²³ For, although the controls on outflows protected the foreign reserves from declining, they also limited net-capital inflows - which would have boosted those reserves.²⁴

Huizinga (1996) makes the general point that multiple exchange rate practices, or generally any official selling or buying of foreign exchange at a rate different from the ‘equilibrium’ rate, have long been recognized to be quasi-fiscal activities as they immediately impact on the public finances. In fact, multiple exchange rate systems can be interpreted as a set of separate taxes on international capital flows and goods trade. A typical two-tiered exchange rate system with a commercial exchange rate (for all current account transactions) and a financial exchange rate (for all capital account transactions) enables the authorities to tax domestic money and other financial assets

²² Gidlow (1976, p. 92) notes that if the blocked rand would be trading at a premium – i.e. if inequality (6) held – that would offer temptations for the Reserve Bank to sell rands to non-residents for foreign exchange, which apart from boosting the official foreign reserves would provide a potential profit if subsequently the receipts were sold in the official exchange market.

²³ Gidlow (1976, p. 88) points out that traditionally the JSE has tended to need a strong foreign interest for local dealing to be lively. He points to a fairly close correlation between changes in foreign portfolio investment and movements in industrial share prices, while the volatility of the ‘gold shares’ market was also largely the product of changes in overseas sentiment towards gold shares.

²⁴ An additional effect of the controls was that sometimes non-residents that considered to invest in, say, SA equities via the blocked rand market, found the mechanism to be cumbersome and were therefore discouraged from proceeding. [Gidlow (1976, p. 90)].

at different implicit rates. Consider now the tax treatment of interest (and other financial returns such as dividends) implicit in the blocked rand system.

We already know that inflows would tend to use the commercial (financial) channel, if $b_1 < (>)e_1$, that is if the blocked rand traded at a premium (discount) vis-as-vis the blocked rand. Regarding outflows, we know that non-residents could (i) use the stock market (the blocked rand market). Alternatively, (ii) non-residents could invest the blocked rand in government, municipal and public utility stocks with a maturity of five years or more. Once these had been held for at least five years, they could be repatriated at the official rate. Finally, (iii) non-residents could use the blocked rand to take up special non-resident bonds with five year maturities issued by the government. These could again be repatriated at the official exchange rate on maturity. In cases (ii) and (iii) repatriation of capital and interest would be at the commercial rate, whilst in case (i) it would be at the blocked rate. In terms of the two-period examples above, we can therefore distinguish several cases depending on whether the country experienced a discount or premium, and how money left the country. In total, there are $2 \times 3 = 6$ cases. These – together with the relevant arbitrage conditions – can be found in Table 2.3 below.

Table 2.3 Quasi-Fiscal Aspects of the Blocked Rand System

	Inflows	Outflows	Relevant arbitrage condition
Blocked rand trades at <u>discount</u> : $b_1 > e_1$	Via blocked rand market	1. Via blocked rand market: b_2	$\frac{b_1}{b_2}(1+i) > 1+i^* \text{ (6)}$
		2. Via government, municipal and public utility stocks: e_2	$\frac{b_1}{e_2} + \frac{b_1}{e_2}i > 1+i^* \text{ (8)}$
		3. Via special non-resident bonds: e_2	$\frac{b_1}{e_2} + \frac{b_1}{e_2}i > 1+i^* \text{ (8)}$
Blocked rand trades at <u>premium</u> : $b_1 < e_1$	Via commercial rand market	4. Via blocked rand market: b_2	$\frac{e_1}{b_2}(1+i) > 1+i^* \text{ (3)}$
		5. Via government, municipal and public utility stocks: e_2	$\frac{e_1}{e_2} + \frac{e_1}{e_2}i > 1+i^*$
		6. Via special non-resident bonds: e_2	$\frac{e_1}{e_2} + \frac{e_1}{e_2}i > 1+i^*$

Note that cases 1 and 6 correspond with arbitrage equations **(6)** and **(1)** (that have already been discussed earlier).

Under cases 2 and 3 non-residents holding SA assets receive $1/e_2$ rather than $1/b_2$ units of foreign currency for each unit of interest (and capital) repatriated abroad. This suggests that non-residents receive an additive subsidy σ for each unit of interest and capital equal to $\rho - 1$, where as before $\rho = b/e$ is the financial rate discount versus the commercial rate. Thus, another characteristic of the blocked rand system was that it subsidized capital inflows, i.e. it subsidized international lending.

Since a subsidy can be interpreted as a negative tax, this shows that the system also had important fiscal implications.

Perhaps as a compensation for the difficulty associated with the repatriation of the proceeds of SA asset sales, non-residents were encouraged – offered subsidies – to hold South African debt. As pointed out by FT (2004, p. 5) this aspect of the blocked rand system had attracted domestic criticism for a number of years as a result of the extremely high yields to redemption on offer for non-residents. As a consequence, option 2 above was modified in the 1978 budget. Under the new arrangements, in place from 30 March 1978, the proceeds of such stocks could only be repatriated on redemption through the securities (financial) rand or invested in new 6 percent bonds introduced by the Treasury.

Next, consider the implications of the capital controls as exemplified by the blocked rand system for monetary and exchange rate policies. Note that according to equation

$$i = i^* + e_2 - b_1 = i^* + (e_2 - e_1) + e_1 - b_1 = i^* + (e_2 - e_1) - \rho_1 \quad (8)$$

(in logs) corresponding with cases 2 and 3 of Table 2.3 above, the monetary authorities are free to choose an exchange rate policy consistent with the desired domestic interest rate, i [Huizinga (1996)].

Calling the latter i^d for a given (expected) rate of depreciation of the commercial exchange rate $e_2 - e_1$, they can for instance affect the blocked rand discount via interventions in the spot commercial market to bring about the desired value i . This can be seen by first decomposing the commercial rate as

$$e_1 = e_1^{FLOAT} + \underline{e} \quad (9)$$

So, the commercial rate (in logs) is the sum of the floating rate (e_1^{FLOAT}) in the absence of intervention, and the support from buying ($\underline{e} = \underline{e}^- < 0$) or selling ($\underline{e} = \underline{e}^+ > 0$) of commercial rand by the SARB.²⁵ Thus, in case of SARB buying (selling) the commercial rate would be firmer (weaker) than in the absence of intervention, i.e. $e_1 < e_1^{FLOAT}$ ($e_1 > e_1^{FLOAT}$).²⁶

Substituting (9) in (8) we get

$$i = i^* + (e_2 - e_1) - (b_1 - e_1^{FLOAT} - \underline{e}) \quad (8')$$

²⁵ It should be remembered that here e^{FLOAT} is not a truly floating commercial exchange rate, but one that is already heavily insulated from capital flows via controls on residents and non-residents.

²⁶ If the SARB were to target the commercial rate at e^d say, then its optimal intervention policy according to (9) would be $\underline{e} = e^d - e_1^{FLOAT}$ (9'). This equation indicates that given its exchange rate target, the SARB would 'lean against the wind' by selling (buying) commercial rand if the underlying 'fundamental' commercial rate e_1^{FLOAT} (coming say from the current account of the balance of payments) appreciates (depreciates).

Equation (8') can be reformulated as a reaction function governing CB spot intervention to bring about (target) a desired value for i . So, we rewrite (8') so that i becomes the policy target i^d , and \underline{e} is the CB's instrument. This yields:

$$\underline{e} = (i^d - i^*) - (e_2 - e_1) + b_1 - e_1^{FLOAT} \quad (10)$$

Equation (10) is the central bank's optimal reaction function governing its exchange rate policy. It indicates that in the presence of capital controls South Africa can decouple its interest rate from the international interest rate, i.e. $i^d - i^* < 0$, but that this comes at the price of a (most probably) overvalued commercial exchange rate effectuated inter alia by spot market intervention ($\underline{e} < 0$). Also evident from this equation is the role played by 'fundamentals' as proxied by e_1^{FLOAT} . This term simply indicates that if the commercial rate is appreciating (depreciating) because of a current account surplus (deficit) the SARB can 'lean against the wind' by buying (selling) dollars in the commercial market. As is clear from the above, e_1^{FLOAT} would be most likely positively correlated with the current account position, and thus with variables like the gold price.²⁷

The discussion above has one further implication, and that is that if monetary policy is set according to (10), then the exchange rate is the 'instrument' of policy rather than an outcome variable. This suggests an early rationale for anchoring monetary policy via the exchange rate, rather than via the domestic interest rate.²⁸

We conclude this Section by summarizing the intended and unintended consequences of the blocked rand system, taken from the earlier analysis. This summary can be found in Table 2.4.

²⁷ From the above discussion it follows that if the CB trades off direct commercial rate stabilization and engineering a lower domestic rate via an overvalued commercial rate, its optimal intervention policy would be a weighted average of (9') and (10). Calling the weight on (preference for) direct exchange rate targeting $0 \leq \alpha \leq 1$, then we have

$\underline{e} = (1 - \alpha)(i^d - i^*) - (1 - \alpha)(e_2 - e_1) + (1 - \alpha)b_1 - e_1^{FLOAT} + \alpha e^d$, which collapses to (9') ((10)) if $\alpha = 1$ (0).

²⁸ At the risk of oversimplification, a policy menu that appears to have been quite attractive to monetary policy makers in South Africa during most of the post Bretton Woods period (perhaps even until the advent of inflation targeting and the closure of the NOFP).

Table 2.4 Effects of the Blocked Rand System

Intended Consequences	Unintended Consequences
1. Insulation of the (capital account of the) BOP from capital flows. That is, the BOP was protected from outflows driven by non-resident selling of SA securities.	1. The blocked accounts adversely affected South Africa's image abroad as an investment destination.
2. Insulation of the commercial market (official) exchange rate of the rand from capital flows. That is, the commercial rate was prevented to depreciate in line with the outflows under 1 above.	2. Emergence of an (offshore) parallel foreign exchange market.
3. Providing more effective protection for the foreign reserves (insulation of the country's level of foreign exchange reserves from capital flows). That is FX reserves were also protected from declining in line with 1 above.	3. Emergence of a <u>discount</u> between the blocked and commercial rand exchange rates.
	4. The discount further damaged South Africa's image abroad - at a time when the attachment to fixed exchange rates was strong - because it might cast suspicion on the maintenance (affected the 'credibility') of the official exchange rate for the rand.
	5. Because of the discount, a 'currency premium' emerged which raised the cost of debt for the South African economy.
	6. Controls on outflows implied serious <u>implicit quantity restrictions on capital inflows</u> that would have boosted the country's foreign exchange reserves.
	7. Potential investors (non-residents that considered to invest in, say, SA equities via the blocked rand market) found the mechanism to be cumbersome and could therefore be discouraged from proceeding
	8. The system ended up <u>subsidizing capital inflows (international lending)</u>
4. When introduced in 1961, the controls were meant as a <u>temporary</u> crisis measure)	9. Unintended very substantial 'institutional inertia': eventual evolution first into an informal (blocked and securities rand) and then into a <u>formal</u> (financial rand) dual exchange rate system (in 1979).
	10. The presence of exchange controls on <u>residents</u> enabled the SARB to target domestic interest rates via FX market interventions in the commercial market. This provides an early rationale for anchoring monetary policy via the exchange rate, rather than via domestic interest rates.

As pointed out by Gidlow (1976, p. 87), on occasions recommendations have been put forward that the blocking procedure be abolished, but the authorities have taken the view that such a move could have unpredictable repercussions and lead to volatile capital flows (which in turn could play havoc with foreign exchange reserves and domestic liquidity conditions). Instead, on 26 August 1975, the SARB announced changes in the blocked rand system that were mostly motivated by unintended consequences # 1, 2 6 and 7; the so-called 'securities rand system', its main idea was to 'boost overseas interest in the Republic as an investment outlet' and to move the

offshore parallel market to Johannesburg. The securities rand system – that allowed blocked rand balances to be officially and directly transferred among non-residents - is discussed below.

3.1 THE SECURITIES RAND SYSTEM

As indicated by FT (2004, p. 7), the possibility of abolishing the blocked rand system was mentioned many times. However, changes only came in 1975. More specific, on 26 August 1975 the SARB announced several changes regarding South African exchange control regulations designed to boost overseas interest in the Republic as an investment outlet.²⁹

Note that the ‘dismantling of the blocked rand system’ did not mean that the rand in question was no longer blocked. Indeed, the administrative controls on capital outflows by non-residents as a pool remained very much the same. However, some details of the mechanism were changed.

On 30 January 1976 the Reserve Bank issued a circular that gave further details of the new regulations which were to become effective on 2 February of the same year.

The Bank stated that as from the latter date the expression ‘securities rand’ should be used instead of blocked rand to denote the local sale and redemption proceeds of South African securities and other investments in South Africa owned by non-residents. All non-resident accounts falling under this category must be designated securities rand accounts. Also, the blocked accounts of immigrants to South Africa who have not completed three years’ residence must also be designated as securities rand accounts. However, the Bank said emigrant’s funds which are blocked in South Africa must continue to be referred to as blocked rand, and other accounts of emigrants designated as blocked rand accounts. Hence as from February 1976 the term ‘blocked rand’ had a more restricted meaning than had been the case since its introduction in 1961.

Under the new regulations securities rand will be bought and sold through brokers on the Johannesburg stock exchange. The idea was that by removing the necessity of dealing through the arbitrage operations mentioned earlier (through the London channel) blocked rand could be transferred more easily and more cheaply, and become more accessible to overseas investors.³⁰

The Bank further stated that only those branches of authorized foreign exchange dealers who have been appointed as authorized banks may maintain securities rand balances. Thus transfers of securities rand will take place from one securities rand account to another in the books of one bank, and from a securities rand account with one bank to a securities rand account with another bank. [Gidlow (1976, p. 84)]

Thus, the securities rand allowed for direct transfers between non-residents, and for the trading of the securities rand through brokers on the JSE. This is a major change

²⁹ SARB (1975).

³⁰ Gidlow (1976, p. 91) points out that psychologically such a move looked beneficial. For those investors not fully acquainted with existing blocked rand procedures, the announcement making blocked rand balances officially transferable may have created a favourable impression.

with respect to the blocked rand system as there blocked rand was not freely transferrable from one non-resident to another. As said before allowing the latter would have granted official recognition to the blocked rand exchange rate, an action which the authorities deemed undesirable in an era of fixed exchange rates.

However, in 1976 the era of irrevocably fixed exchange rates was over, and South Africa's exchange rate regime could be best described as a 'variable rand-dollar peg' (combined with the securities rand, that is combined with an extensive menu of capital controls on residents and non-residents). As pointed out by Gidlow (1976, p. 88), in this environment the recognition of a second floating exchange rate for portfolio investment did not pose the same difficulties as before when South Africa desired to maintain a stable exchange rate for the rand.

Another reason for the changes in the blocked rand system was the belief that securities rand transactions would be diverted from London to Johannesburg. FT indicate that this did not materialize, primarily because of the dominance of London as a financial centre.³¹ The familiarity of non-resident investors with London, the technical superiority of the market, and the operation of London dealers as principals in the securities rand market were all contributory factors here.

Gidlow (1976, p. 93) points out that after the Reserve Bank had decided to recognize the blocked rand discount officially, and to allow non-resident balances to be freely transferable, it could now intervene in the securities rand market irrespective of what the rate was, in the interests of stability. So, by officially recognizing the second floating exchange rate for portfolio investment transactions (and by allowing direct transfers) the SARB had now the ability to enter the market (either as a buyer or a seller) for securities rand as well. It stands to reason to assume that the Bank was unhappy about the discount and would have liked to stabilize the securities rate at, say, a small discount to the official rate.³²

Drawing upon our earlier discussion on spot market intervention, and letting s be the securities rand exchange rate, we can simply use equation (8) (where we have substituted s_1 for b_1)

$$i = i^* + e_2 - s_1 \quad (11)$$

Now if we assume SARB intervention in the securities rand market, then (as before) we can decompose the securities rand exchange rate as

$$s_1 = s_1^{FLOAT} + \underline{s} \quad (12)$$

³¹ Gidlow (1976, p. 91) –at the time of the announcement of the changes - points out that it would be wrong to assume that London stands to be seriously affected, since dealings by foreigners through that market will continue as well as arbitrage operations between that centre and Johannesburg; the London market will probably still remain a major centre for South African shares. Thus, according to Gidlow foreigners will continue to acquire blocked rands through London arbitrageurs rather than buying directly in Johannesburg.

³² Remember that the discount captured the perceptions of foreign investors and therefore their willingness to leave assets in the country [Farell and Todani (2004, p. 24)]. Ceteris paribus, the higher (lower) the discount the less (more) willing foreign investors are willing to leave assets in South Africa.

So, the securities rate is the sum (all variables are logs) of the floating rate (s_1^{FLOAT}) in the absence of intervention, and the support from buying ($\underline{s} = \underline{s}^- < 0$) or selling ($\underline{s} = \underline{s}^+ > 0$) of securities rand by the SARB. Thus, in case of SARB buying (selling) the securities rate would be firmer (weaker) than in the absence of intervention, i.e. $s_1 < s_1^{FLOAT}$ ($s_1 > s_1^{FLOAT}$).³³

Combining (11) and (12) we get

$$i = i^* + e_2 - (s_1^{FLOAT} + \underline{s}) \quad (13)^{34}$$

Obviously, the logic regarding intervention in the securities rand market is then similar to the one outlined under spot commercial market intervention, meaning that in principle given i^* , e_2 (a given depreciation expectation of the commercial rate) and the ‘market level’ of the securities rate, \underline{s} can be chosen so as to bring about a desired level of the domestic interest rate.

Gidlow (1976, p. 93) points out that aforementioned intervention operations could be subject to several constraints. Firstly, as soon as the securities rand market was subject to official intervention, profit (or loss) implications would arise. Secondly, the securities rand market would probably not be sufficiently broad (liquid) to smoothly absorb sizeable sales or purchases by the authorities without significantly altering the securities rand rate (s) as well as conditions on the stock market.

3.2 THE SECURITIES RAND SYSTEM: EVALUATION

The securities rand system was introduced to allow direct transfers of blocked rand between non-residents. The idea was that securities rand would be sold and bought through brokers on the JSE, thereby relocating trade from London to Johannesburg. Using modern terminology, the authorities wanted to ‘promote Johannesburg as a financial centre’. As we have pointed out, this did not materialize because of the familiarity of non-residents with London, the technical superiority of the market and the operation of London dealers as principals in the securities rand market. In addition, by officially recognizing the blocked rand exchange rate, the authorities could now intervene in the securities market and in this way do something about the discount versus the commercial rate that pushed up the cost of capital for the South African economy. However, said interventions were handicapped by the limited liquidity of the securities rand market.

³³ If the SARB were to target the securities rate at s^d say, then its optimal intervention policy according to (12) would be $\underline{s} = s^d - s_1^{FLOAT}$ (12’). This equation indicates that given its exchange rate target, the SARB would ‘lean against the wind’ by selling (buying) securities rand if the underlying ‘fundamental’ securities rate s_1^{FLOAT} appreciates (depreciates).

³⁴ Note that the corresponding equation for the blocked rand system is $i = i^* + e_2 - b_1$ (8). Note that here the SARB has no leverage over the currency premium because it cannot intervene in the blocked rand market.

We conclude this Section by summarizing the intended and unintended consequences of the securities rand system. This summary can be found in Table 3.1.

Table 3.1 Effects of the Securities Rand System

Intended Consequences	Unintended Consequences
Boost overseas interest in the Republic as an investment outlet.	
Allowing for <u>direct transfers</u> of securities rand balances between non-residents.	
<u>Official recognition</u> of the ‘securities rand’ exchange rate, that is of the existence of a parallel foreign exchange market.	
Allowing the authorities to intervene in the securities rand market.	Securities rand market was not sufficiently liquid to smoothly absorb sizeable interventions.
Relocating trade from offshore (London) parallel foreign exchange market to onshore (Johannesburg) market	
Encourage direct foreign interest in local shares	Relocation of trade from London to Johannesburg did not materialize. Promotion of Johannesburg as a ‘financial centre’ was ineffective.
Increase foreign exchange earnings for South Africa through new portfolio investments	Fundamental imbalance between uses of (demand for) and sources (supply) of securities rand by non-residents led to a substantial <u>discount</u> , $(s - e)$, between the securities and the official rate. In turn, the discount inhibited non-resident investment through the official market and the associated foreign exchange earnings.
	With the securities rand at a discount to the commercial, SA borrowers could have to had repay at the <u>securities rate</u> existing loans originally contracted at the <u>official rate</u> . This <u>increased the cost of capital</u> for the South African economy.

The securities rand system operated until 1979, when it was replaced by the financial rand on the recommendations of the interim report of the De Kock Commission (Interim Report of the Commission of Inquiry, 1978).

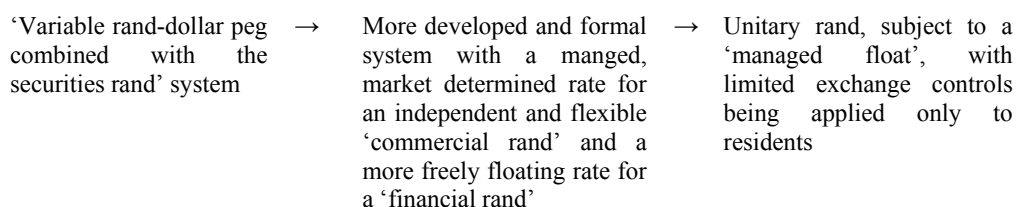
4.1 THE PROPOSED FINANCIAL RAND SYSTEM

As pointed out by FT, from the late 1970s, the policy-making environment in South Africa assumed a more market-oriented profile. Gerhard de Kock, later Governor of the Reserve Bank between 1981 and 1989, was influential in this regard, particularly as a result of his chairing of the Commission of Inquiry into the Monetary System and Monetary Policy in South Africa (the de Kock commission).

Asked by the Government to initially investigate exchange rate arrangements in South Africa, the de Kock Commission published its relevant interim report in January 1979. The commission proposed an evolutionary process of reform of the exchange rate system, which entailed both short-term and longer-term recommendations.

In the shorter-term, the commission considered a number of alternatives to SA's existing 'variable rand-dollar peg combined with the securities rand' system, including a formal dual exchange rate system (DRS). On the assumption that the pressures on the capital account of the balance of payments would ease over time, the commission opted in the long-term for a unitary rand, subject to a 'managed float', with limited exchange controls being applied only to residents [FT (2004, p. 8)]. Figure 4.1 summarizes

Figure 4.1 The 'Road Map' for Exchange Control Relaxation in 1978



Looking at Figure 4.1 above, it appears that the road map for the relaxation of exchange control in the late 1970s looked a bit like a (horizontal) 'diamond': short-term expansion and long-term contraction. However, the contraction or scaling-down of controls did not happen for a long time. Only 17 years later, in 1995, were most of the controls on non-residents scrapped and the rand unified.

In the short-term, the commission recommended that the securities rand system be gradually expanded into a

'**more developed and formal system** with a managed, market determined rate for an independent and flexible 'commercial rand' and a more freely floating rate for a 'financial rand'[para 149, quoted by FT (2004, p. 8), emphasis mine].

As pointed out by FT (2004, p. 8), the envisaged developments in the securities rand system included extending the uses which non-residents could make of the currency, as well as allowing certain resident transactions to take place via the (securities rand) market. As far as non-residents were concerned, the widening of the market was intended to remove the imbalance between the sources (supply of) and uses (demand) for securities rand reflected by the existence of the securities rand discount. Figure 4.2 illustrates.

Figure 4.2 Effects of Sources and Uses of Securities Rand

<u>Sources</u> of securities rand ↑ (supplied by non-residents)	→	tends to weaken s	→	$\text{Discount} = (s - e)$ widens (narrows) due to increased supply (demand)	←	tends to strengthen s	←	<u>Uses</u> for securities rand ↑ (demanded by residents and non-residents)
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Obviously, the securities rand market was one characterized by 'excess supply' as reflected inter alia by not allowing non-residents to use the official market to channel funds out of the country (controls on non-residents). In addition, as mentioned earlier reasons for the existence of a persistent discount were lack of London demand for SA

shares (low p_L), matched by a tendency for local buying of local shares (high p_J) associated with controls on residents that inhibited off-shore investments.³⁵

The solution to the problem of the discount proposed by the commission was to recommend equity investment and disinvestment (in all real and financial assets) as financial rand transactions. Transfers from deceased estates to non-residents and immigrant funds were also recommended as financial rand transactions. In addition, residents' use of the financial market, was to be expanded gradually and would require exchange control approval (although not necessarily on an individual basis for small applications) [FT (2004, p. 9)].

So, the idea was to gradually expand residents and non-residents' use of (demand for) securities rand, probably because restricting non-residents' supply was not an option (that would only have been possible if controls on outflows would be relaxed) so there was limited leverage over the 'supply-side' of the securities rand market. Table 4.1 illustrates.

Table 4.1 Proposed Measures to Lower the Discount (Widen the Securities Rand Market)*

Measures designed to decrease <u>sources</u> of securities rand (supplied by non-residents)	Measures to increase <u>uses</u> for securities rand† (demanded by residents and non-residents)	
Non-Residents	Residents	Non-Residents
NA	Residents' use of the financial market was to be expanded gradually and would require exchange control approval	Equity investment in all real (FDI) and financial assets (portfolio capital), were all recommended as <u>financial rand transactions</u>

* Source: Farrell and Todani (2004).

So, BOP items associated with capital inflows that previously were previously channeled through the commercial market (e.g. equity investment in all real and financial assets) were now redirected through the financial market. Ceteris paribus, one would expect the effects of this measure to be

- (i) a weakening of the commercial rand, $e \uparrow$, (less demand for commercial rand associated with equity investment demand for SA assets)³⁶
- (ii) a strengthening of the securities rand, $s \downarrow$, (increased demand for SA assets), thus indeed
- (iii) lowering the discount ($s - e$).

As pointed out by FT (2004, p. 9), the financial rand system proposed by the commission, in its most developed form, did not channel all current transactions through the commercial rand market and all capital account transactions through the financial market (as would be the case with a simple straightforward two-tier exchange rate system).³⁷ The commission recommended, for example, that all loan

³⁵ See also equation (2) and the relevant discussion in the context of the blocked rand system.

³⁶ Effect (i) looks like an unattractive aspect of the reforms, but was (partly) compensated by the proposal to channel loan funds through the commercial market (on which more below).

³⁷ This is the type of dual exchange rate system that is analyzed by Huizinga (1996). Farrell (2001) points out that, whereas the standard DRS is characterized by separate markets for all (resident and non-resident) current and capital account transactions, the financial rand system featured a two-tier

funds were to be transferred via the commercial market (that is the capital as well as the interest payments which would usually have been included in the current account). Loan funds here included bank loans, syndicated loans, private and public bond issues, debenture issues, mortgages, parent company current accounts and shareholder loans.

There were two major reasons for the recommendation that loan funds to be transferred through the commercial market.

First, with the financial rand likely to be at a discount to the commercial, it was considered ‘unfair’ to expect borrowers to repay at the securities rate existing loans originally contracted at the official rate.³⁸ As pointed out by FT (2004), the second major reason was that the commission argued that in a period of rapid economic growth the commercial exchange rate would ‘need the support of the net inflow of loan funds, public and private, that may then be expected’. The underlying reason here would seem to be that growth in the South African economy sucks in imports, especially of capital goods, which tends to increase the demand for foreign exchange and place pressure on the commercial rand exchange rate. If loan funds increase at such times, diverting them through the commercial market would therefore increase the supply of foreign exchange in this market, offsetting the excess demand for foreign currency. Table 4.2 summarizes the proposed features of the financial rand system.

Table 4.2 Some Features of the Proposed Financial Rand System

	Typical two-tier exchange rate system	Proposed financial rand system
Current account transactions ¹	Channeled via the commercial market	Channeled via the commercial market, with the exception of interest on loan funds
<u>Loan funds (interest)</u>	Channeled via the commercial market	To be transferred via the commercial market
<u>Direct investment</u> <u>Equity portfolio investment</u>	Channeled via the financial market	To be transferred via the <u>financial market</u>
<u>Loan funds (capital/principal)</u> (bank loans, syndicated loans, private and public bond issues, debenture issues, mortgages, parent company current accounts and shareholder loans)	Channeled via the financial market	To be transferred via the commercial market

¹ Including trade credit.

In addition to the widening of the market, the commission proposed that intervention by the Reserve Bank was allowed ‘as part of a co-ordinated policy of intervention in

float. It was partial in the sense that it incorporated only a subset of capital account transactions in the financial rand foreign exchange market, and it was asymmetrically applied in that free access to this market was generally restricted to non-residents (resident access was allowed only in approved cases).

³⁸ This is of course the issue of subsidizing international lending (subsidizing capital inflows) as analyzed under the blocked rand system.

the commercial and financial markets' (para 255-6, quoted by FT). The rationale here appears to have been to smooth sharp movements in the rate, although the commission anticipated that intervention in the financial rand market would be infrequent and of limited magnitude.

The way these interventions can be used as a key aspect of monetary and exchange rate policies can be analyzed as before with the relevant arbitrage equation for non-resident investors (in logs)

$$i = i^* + f_2 - f_1 \quad (15)$$

This equation corresponds with cases 2 and 3 of Table 2.3 above (where I have assumed repatriation via the financial rand along the lines of the regulations of the 1978 budget.³⁹

Equation (15) is simply equation (8) where we have substituted f_1 for b_1 , and f_2 for e_2 . Combining equation (15) with equation (9) – which introduced spot market intervention – and

$$f_1 = f_1^{FLOAT} + \underline{f} \quad (16)$$

where equation (16) is the financial rand counterpart of equation (12) (with \underline{f} substituted for s) – which introduced securities market intervention – we get

$$i = i^* + (e_2 - e_1) - (f_1^{FLOAT} + \underline{f} - e_1^{FLOAT} - \underline{e}) + (f_2 - e_2) \quad (15')$$

As before for the cases of the blocked- and securities rand systems, equation (15') can be reformulated as a reaction function here governing coordinated spot and financial market intervention to bring about (target) a desired value for i . So, we rewrite (15') so that i becomes the policy target i^d , and \underline{e} and \underline{f} the CB's instruments, this yields

$$(\underline{f} - \underline{e}) = -(i^d - i^*) + (e_2 - e_1) - (f_1^{FLOAT} - e_1^{FLOAT}) + (f_2 - e_2) \quad (17)^{40}$$

Equation (17) is the central bank's optimal reaction function governing its optimally induced manipulation of the financial rand discount. It indicates that in the presence

³⁹ Under the new arrangements in place from 30 March 1978, the proceeds of government, municipal and public utility stocks could only be repatriated on redemption through the securities (financial) rand or invested in new 6 percent bonds introduced by the Treasury.

⁴⁰ If the central bank were to target the financial rand discount directly at $(f - e)^d$, say, then its optimal coordinated intervention policy according to (9) and (16) would be $(\underline{f} - \underline{e}) = (f - e)^d - (f_1^{FLOAT} - e_1^{FLOAT})$ (16'). It follows that if the CB trades off direct financial rand discount stabilization and engineering a lower domestic rate via a higher discount, its optimal intervention policy would be a weighted average of (16') and (17). Calling the weight on (preference for) direct financial rand discount targeting $0 \leq \alpha \leq 1$, then we have $(\underline{f} - \underline{e}) = -(1 - \alpha)(i^d - i^*) + (1 - \alpha)(e_2 - e_1) - (f_1^{FLOAT} - e_1^{FLOAT}) + (1 - \alpha)(f_2 - e_2) + \alpha(f - e)^d$ (18), which collapses to (16') ((17)) if $\alpha = 1$ (0).

of capital controls and a dual exchange rate system South Africa can decouple its interest rate from the international interest rate, i.e. $i^d - i^* < 0$, but that this would come at the price of a higher financial rand discount.

In the absence of financial market intervention, that is $\underline{f} = 0$ - the same outcome can be achieved, but then at the price of a (most probably) overvalued commercial exchange rate effectuated inter alia by spot market intervention ($\underline{e} < 0$). This loosely corresponds with reaction function (10).⁴¹ Similarly, in the absence of spot market intervention - that is if $\underline{e} = 0$ - a similar objective can be achieved by cutting the financial rand exchange rate ($\underline{f} > 0$). This case is related to the reaction function implied by arbitrage condition (13).⁴²

It follows that the central bank can also combine spot and forward market intervention by doing ‘a bit of both’. That is, it can achieve the same objective with two instruments, instead of intervening in just one market. Thus, it can pitch i below i^* by selling some financial rand to non-residents for dollars (but not as much as in the case absent spot market intervention), and then sell the dollars for rand in the official (commercial) exchange market (where obviously the SARB would buy less dollars as in the case absent financial market intervention so that the commercial exchange rate does not appreciate as much).⁴³

4.2 THE PROPOSED FINANCIAL RAND SYSTEM: EVALUATION

As is evident from the commission’s proposals the idea was to have managed market determined rate for the commercial rand, and a more floating rate for the financial rand. This already suggests that the commercial market would be more subject to interventions than the financial market. This recommendation made perfect sense, as the securities (financial) market was too illiquid to allow substantial interventions to be conducted there in an orderly manner.⁴⁴ In addition, the commission wanted to boost non-resident demand for securities rand, and thereby to affect the fundamental imbalance in the securities rand market (an imbalance obviously caused by the controls on residents⁴⁵ and non-residents in the first place), and so hopefully lower the securities rand discount which as said before (i) increased the cost of capital for the SA economy, and (ii) inhibited new inflows (through the commercial market) thereby unintentionally working as a de facto quantity control on net inflows and preventing a much-needed boost in foreign exchange reserves. The proposed solution was to recommend equity investments (in all real and financial assets) as financial rand

⁴¹ There is no exact correspondence as (10) is based on a different arbitrage equation namely, on condition (8) instead on condition (15).

⁴² The implied reaction function is $\underline{s} = -(i^d - i^*) + e_2 - s_1^{FLOAT}$. This equation is no precise limiting case of (16), as it is based on arbitrage condition (8) instead of condition (15).

⁴³ Obviously, the above policy would increase the financial rand discount.

⁴⁴ In addition, there was the policy trade-off to perhaps try to engineer a wedge between domestic and international interest rates, but this then would be a the price of a most probably overvalued commercial exchange rate (a substantial financial rand discount).

⁴⁵ Remember that one of the reasons for the persistent discount was a tendency for local buying of SA shares (high p_f) associated with controls on residents that inhibited resident off-shore investments.

transactions (thereby stimulating demand for financial rand, and lowering the discount). In addition, loan funds were recommended as commercial transactions. The intended effect of the latter was to support the commercial rate especially in times of rapid economic growth when the SA economy sucked in imports, especially of capital goods, which tended to place pressure on the commercial rand exchange rate ($e^{FLOAT} > 0$).⁴⁶ So, in a way the ‘relabelling’ of loan funds as commercial market transactions can be seen as a substitute for commercial market intervention.⁴⁷

5.1 THE FINANCIAL RAND SYSTEM

As pointed out by FT (2004, p. 10), (most of) the recommendations of the De Kock commission were accepted by the authorities in January 1979, and the securities rand changed into the financial rand. The financial rand system operated initially until 7 February 1983, when the rand was reunified.

As was the case with the securities rand, the financial rand generally traded at a discount to (was weaker than) the official rate, i.e. $f > e$.

Remember that the discount captured the perceptions of foreign investors and therefore their willingness to leave assets in the country [Farell and Todani (2004, p. 24)]. Ceteris paribus, the higher (lower) the discount the less (more) willing foreign investors are willing to leave assets in South Africa.⁴⁸

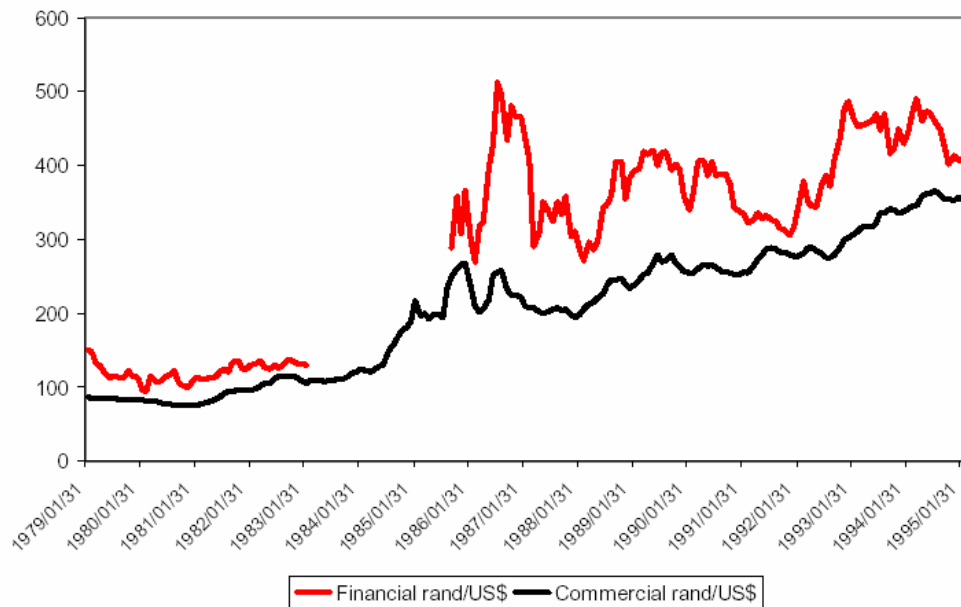
Chart 5.1 plots the level of the (monthly) exchange rates of the financial and commercial rand since 1979. Obviously, the vertical distance between the top and bottom lines indicates the financial rand discount.

⁴⁶ Remember that e^{FLOAT} would be most likely positively correlated with the current account position (for example with variables like the gold price).

⁴⁷ With the discount hampering net inflows increases in foreign reserves – that could have been used to support the commercial rate in times of stress – were also limited.

⁴⁸ However, the discount was not entirely an exogenous variable, as it could be affected by (coordinated) intervention in the financial and commercial markets (instead of, or in addition to an exchange rate policy that tried to drive a wedge between onshore and offshore interest rates).

Chart 5.1 The Financial Rand: 1979-83 and 1985-95*



* Source: Farrell and Todani (2004).

As pointed out by FT (2004, p. 11), although the precise regulations pertaining to the system were changed from time to time, the basic mechanics of the financial rand system remained the same and worked in a similar way as outlined in the Section on the blocked rand system. Geographically, the market was located mainly in Johannesburg and London, and can be viewed as having operated through two channels – the ‘cash’ market and the stock exchanges. In the cash market, a number of local banks quoted two-way rates. This is the direct channel as outlined in the first two rows of Table 2.1. Alternatively, non-residents could bypass the cash market by transacting on the London and Johannesburg stock exchanges. Investors would buy South African shares in London with foreign currency, and sell them in Johannesburg (so ‘creating’ financial rand). Disinvestment would proceed in the opposite direction. This is the indirect channel as outlined in rows 3 and 4 of Table 2.1.

FT (2004, p. 13) explain that arbitrage via stockbrokers (especially in London) provided a link between the two channels. Consider the following example adapted from FT. Assume as before that the price of de Beers in London was \$10 in London, and R40 in Johannesburg. The implicit financial rand rate f is then $\frac{P_J}{P_L} = \text{R}40/\$10 =$

R4 per dollar. If however, in Johannesburg the financial rand was quoted as R3.8461538 per dollar, say, arbitrageurs (usually in London) would buy de Beers in London (\$10), sell in Johannesburg (R40), thus creating 40 financial rand at a cost of \$0.25 each. Selling these in the cash market for \$ 0.26 each, the arbitrageur profited and affected all three markets. The price of de Beers would rise in London and fall in Johannesburg (together increasing the implicit financial rate below R4), and the financial rate in the cash market would increase above R3.8461538. Arbitrage

therefore ceased when profits were exhausted (taking transaction costs into account).⁴⁹

As pointed out by FT (2004, p. 14), the conventional wisdom regarding the scrapping of the financial rand system was that it would not occur when the financial rand discount, $f_1 - e_1$, say, was high. The reason was that a unified exchange rate which settled at a significantly stronger level than the previous financial rand rate, i.e. $f_2 = e_2 > f_1$, would provide a large incentive for non-resident capital outflows. Note that if this situation were to occur, it would resemble the situation prior to the 1978 Budget. Then, non-residents could exit the country via the commercial rate with funds originally contracted at the blocked (securities) rate. With the financial (securities) rand trading at a discount, on repatriation non-residents received an additive subsidy ($\sigma = f/e - 1$).⁵⁰ The same could be the case if controls were scrapped under conditions of a large discount; then the relevant subsidy, σ , would be $f_1/e_2 - 1$.

Given this, it is perhaps surprising that when the financial rand system was scrapped in February 1983⁵¹, the financial rand discount was at a relatively high 17 percent [FT (2004, p. 14)].

FT point out that the consensus is now that the (timing of) the 1983-1985 unification was a ‘disaster’. The unified rand was of short duration. It was reintroduced on 2 September 1985, as part of the response of the monetary authorities to South Africa’s debt crisis.

This crisis was sparked by political events – notably the (Rubicon) speech to the Natal Congress of the ruling National Party on 15 August 1985 by then State President P.W. Botha – which induced large scale capital flight out of the country in the remaining weeks of August.⁵² As a response the Government suspended trading on the JSE and the foreign exchanges through to 2 September. Prior to the Rubicon speech events that helped building the crisis were the SA government’s declaration of the State of Emergency on 20 July 1985, the French government’s announcement of restrictions on investment in South Africa and rumours that began circulating that international banks would not renew loans to South Africa which were falling due at the end of August. In more detail, then, the 1985 crisis was precipitated by the refusal of US banks to roll over loans to South Africa. In August, Chase Manhattan Bank made the decision to call in all its outstanding loans to South Africa, and the other banks followed suit. [FT (2004, pp. 16-18)].⁵³

⁴⁹ FT note that the regulations which prohibited local actors in the financial rand market from taking positions, limited their ability to arbitrage severely (they could only perform arbitrage when they could match buyers and sellers at a given cash market rate).

⁵⁰ See the section on the blocked rand system.

⁵¹ Although controls on non-residents were effectively removed at this time, those on capital transfers by residents remained largely in place. The apparatus for registering non-resident ownership of securities was also retained.

⁵² Prior to the speech an expectation arose that political reforms of the apartheid system would be made to appease foreign bankers. This expectation was effectively destroyed in the speech.

⁵³ Following Feldstein (1999), FT label it as a ‘balance sheet’ or liquidity crisis.

As a policy response, on 1 September 1985, an emergency package of measures was announced which included a moratorium on debt repayments, and the reintroduction of the financial rand system in much the same form as had existed in 1979-1983.

5.2 THE FINANCIAL RAND SYSTEM: EVALUATION

As already explained in the context of the blocked rand system, there were serious adverse effects of the controls.

Firstly, the financial rand discount drove up the cost of debt finance (the cost of capital) for the South African economy.

Because of the discount, if a non-resident wanted to invest in SA assets it would be cheaper to transfer dollar funds into rand (i) indirectly, namely to find another non-resident that wanted to disinvest from the country – who had a supply of financial rand that he wanted to sell – rather than (ii) directly, i.e. to buy rand on the official foreign exchange (cash) market. However, the investment into South Africa under (i) above, say by non-resident # 2, can only proceed if non-resident # 2 – who is ‘in the market’ to buy financial rand – can be matched with a seller, say resident # 1, of financial rand. This means that the investment in South Africa by non-resident # 2 is matched with a disinvestment by non-resident # 1 of a similar amount. Thus, a very important effect of the financial rand system was that there could be no net investment into South Africa via the financial rand (the closed pool argument)!

Thus, secondly another unintended effect of the controls on outflows was that they turned into serious implicit quantity restrictions on net capital inflows. Although the controls on outflows protected the foreign reserves from declining, they also limited net-capital inflows, which would have boosted those reserves.

However, perhaps the controls had some benefits such as insulating the commercial exchange rate from capital account factors.

This is in fact the topic of a recent paper by Farrell (2001). He considers whether the imposition of capital controls in South Africa affected the stochastic behaviour of foreign exchange rates, and provided insulation to the commercial exchange rate of the rand. Farrell models the volatility dynamics of South African exchange rates using autoregressive conditional heteroschedastic (ARCH) models, and examines whether the financial rand system of capital controls, imposed on non-resident portfolio capital outflows in the 1985-95 period, affected the volatility of the commercial rand exchange rate.

Two main issues relating to the effectiveness of these controls in achieving this objective are considered in his paper. Firstly, if the financial rand system was successful in separating current and capital account transactions, then the volatility of the commercial rand exchange rate when the controls were in place should be lower than in the contiguous periods when the exchange rate was unified. Secondly, an implication of successful separation is that shocks specific to the financial rand market should not be evident in the commercial rand exchange rate. This suggests that in general the dual exchange rates should not exhibit a common volatility process, and

that volatility in the financial rand market should not spill over into the commercial rand market.

Farrell finds that (i) the volatility of the commercial rand exchange rate was lower in the 1985:9-1995:2 period than in the contiguous periods 1983:2-1985:8 and 1995:3-1998:10 when the rand was unified. Thus, Farrell's first result is that

$$Var(e^{COM}) < Var(e^{FLOAT}) \quad (19)$$

where Var denotes the variance (volatility) and $e^{COM} (e^{FLOAT})$ is the commercial (unified) exchange rate for the 1985:9-1995:2 (1983:2-1985:8/1995:3-1998:10) period.⁵⁴

In addition, he finds that (ii) the financial rate was more volatile than the commercial rate, and that volatility in the financial rand did not impact on the commercial rand exchange rate (although he did find evidence of volatility spillovers from the commercial rand exchange rate to the financial rand). Thus, using f for the financial rand exchange rate and $g(\bullet)$ for functional, Farrell's second result is that

$$Var(e^{COM}) < Var(f) \text{ and } Var(f) = g(Var(e^{COM})) \quad (20)$$

He uses these results to claim that:

'The financial rand set of controls was successful in achieving the primary objective of a dual exchange rate system, namely that of providing the necessary separation between the dual exchange rate markets. Although a no financial rand system counterfactual is virtually impossible to provide, **it seems likely that the financial rand system insulated the commercial rand exchange rate from volatility in non-resident portfolio capital flows in the 1985-95 period**' [Farrell (2001, p. 14), emphasis mine]

Let us now take a closer look at results (i) and (ii).

Ad (i)

Firstly, because of the existence of the exchange controls and the associated DRS demand for dollars (and supply of rand) driven by financial factors would not materialize on the commercial market. Thus, the official exchange rate of the rand was insulated from selling pressures that would have been initiated by non-residents selling SA securities, and was therefore most likely to be substantially overvalued with respect to the counterfactual (hypothetical) level of the exchange rate in the absence of such controls. So, saying that the 'liberated' exchange rate was more volatile (or weaker) than the 'chained' exchange rate is like comparing apartment rents in Moscow during and after Communist rule; they can not really be compared meaningfully.

Secondly, we know that the presence of capital controls facilitated an exchange rate – rather than an interest rate - based monetary policy implemented via heavy-handed

⁵⁴ Farrell and Todani (2004) point out that the volatility of the (financial) rand exchange rate gives some indication of the exchange rate risk of investing in South Africa; the higher the variance, say, the greater the chance of a large increase (depreciation here).

intervention especially in the commercial market.⁵⁵ This regime was unsuccessfully continued in the liberalized environment 1995:3-1998:10 considered by Farrell. It continued first in the guise of a de facto nominal dollar peg (1995:3-1996:2), then in the form of targeting the real effective exchange rate of the rand (in 1997) both with heavy-handed interventions, with disastrous results for exchange rate stability (as is evident from the 1996 and 1998 currency crises).

So, the fact that exchange rate volatility is lower in the 1985:9-1995:2 subsample than in, say, the 1995:3-1998:10 subsample shows that exchange rate targeting was a lot more feasible under a regime with capital controls, than in a liberalized environment where it merely helped create currency crises [see also Mishkin (1999)]. Put differently, it is somewhat misleading to infer the success of a ‘control regime’ in terms of achieving lower exchange rate volatility by using a ‘crisis (high exchange rate volatility) regime’ as the benchmark.

Ad (ii)

The fact that Farrell finds that the financial rand was more volatile than the commercial rand is plausible, as the financial market was thin⁵⁶, so not very liquid and thus not subject to the same (active) degree of intervention as the commercial market.⁵⁷

We conclude this Section by summarizing the intended and unintended consequences of the financial rand system (for ease of exposition some items have been carried over from previous tables).

⁵⁵ According to, say, equation (18) (where $\underline{f} = 0$, no financial market intervention) so, commercial market intervention would be driven by

$$\underline{e} = (1 - \alpha)(i^d - i^*) - (1 - \alpha)(e_2 - e_1) + (f_1^{FLOAT} - e_1^{FLOAT}) - (1 - \alpha)(f_2 - e_2) - \alpha(f - e)^d \quad (21).$$

⁵⁶ FT (2004, pp 19-20) point out that defining financial rand in a narrow way (according to the mechanics of Table 2.1) may be misleading. Since the underlying (that is non-resident held) assets were easily convertible, it might be wiser to view both financial rand balances and the relevant assets as ‘financial rand’. This wider definition is of some importance when attempting to estimate the ‘size’ of the financial rand market. Note however, that the wider definition is probably not the relevant one in trying to assess the size of the FINRAND market in the context of CB intervention. FT also state that the broader definition is helpful in illustrating the ‘closed pool’ argument. Non-resident sales of assets are simple the conversion of one form of financial rand (for example, non-resident held quoted shares) to another (a financial rand deposit).

⁵⁷ In addition, a reason for Farrell’s result that there are volatility spill-overs from the financial to the commercial market may be the presence of commercial market intervention that targets (a weighted average of) the financial rand discount and the level of domestic interest rates. For example, if commercial market interventions are conducted according to (21), then the commercial rate (as the sum of interventions and the ‘floating rate’ according to equation (9)) is given by

$$e_1 = \frac{(1 - \alpha)}{\alpha}(i^d - i^*) + \frac{1}{\alpha}(f_1^{FLOAT}) - \frac{(1 - \alpha)}{\alpha}(f_2) - (f - e)^d \quad (22),$$

which shows the dependence of (the volatility) of the commercial rate e_1 on the financial rate f_1^{FLOAT} . In particular, then volatility of the financial rate would be transmitted to the commercial rate, and the more so the larger the CB’s weight on targeting the domestic nominal interest rate (the lower its weight on financial rand discount targeting).

Table 5.1 Effects of the Financial Rand System

Intended Consequences	Unintended Consequences
1. Insulation of the (capital account of the) BOP from capital flows. That is, the BOP was protected from outflows driven by non-resident selling of SA securities.	1. The financial and blocked rand accounts adversely affected South Africa's image abroad as an investment destination.
2. Insulation of the commercial market (official) exchange rate of the rand from capital flows. That is, the commercial rate was prevented to depreciate in line with the outflows under 1 above.	2. Existence of a <u>discount</u> between the financial and commercial rand exchange rates.
3. Providing more effective protection for the foreign reserves (insulation of the country's level of foreign exchange reserves from capital flows). That is FX reserves were also protected from declining in line with 1 above.	3. Because of the discount, a 'currency premium' emerged which raised the cost of debt for the South African economy.
4. Allowing the authorities to intervene in the securities rand market.	4. Financial rand market was not sufficiently liquid to smoothly absorb sizeable interventions.
5. Relocating trade from offshore (London) parallel foreign exchange market to onshore (Johannesburg) market	
6. Encourage direct foreign interest in local shares	5. Relocation of trade from London to Johannesburg did not materialize. Promotion of Johannesburg as a 'financial centre' was ineffective.
	6. Controls on outflows implied serious <u>implicit quantity restrictions on capital inflows</u> that would have boosted the country's foreign exchange reserves (see also 7 below).
7. Increase foreign exchange earnings for South Africa through new portfolio investments	7. Fundamental imbalance between uses of (demand for) and sources (supply) of financial rand by non-residents led to a substantial <u>discount</u> , $(f - e)$, between the financial and the official rate. In turn, the discount inhibited non-resident investment through the official market and the associated foreign exchange earnings.
	8. With the financial rand at a discount to the commercial, SA borrowers could be in as position where they had to repay at the <u>financial rate</u> existing loans originally contracted at the <u>official rate</u> . This <u>increased the cost of capital</u> for the South African economy.
	9. Potential investors (non-residents that considered to invest in, say, SA equities via the financial rand market) found the mechanism to be cumbersome and could therefore be discouraged from proceeding
8. When introduced in 1979, the controls were meant as a <u>temporary</u> measure, an intermediate step on the road to a unified managed float for the rand.	10. Unintended very substantial 'institutional inertia': the DRS lasted (interrupted between 1983 and 1985) until March 1995.
9. Commercial <u>exchange rate volatility</u> was lower under the FINRAND regime than under the floating regime of 1995:3-1998:10 when the rand was unified. However, this comparison is not very meaningful because (i) the commercial rate during the FINRAND regime was most likely overvalued, and (ii) the floating regime was a crisis (high volatility) regime, which is flattering for the control regime (not a good benchmark for comparison).	11. The presence of exchange controls on <u>residents</u> enabled the SARB to target domestic interest rates via FX market interventions in the commercial and financial markets. This provides an early rationale for anchoring monetary policy via the exchange rate, rather than via domestic interest rates.
	12. The (timing of the) temporary 1983-1985 CAL was a disaster. Among other things the (quasi-fiscal) aspects of this liberalization entailed handing out substantial subsidies to non-resident investors.

6.1 MARCH 1995-SEPTEMBER 2001: THE ABOLISHMENT OF THE FINANCIAL RAND SYSTEM AND FURTHER RELAXATION OF EXCHANGE CONTROLS

An early step in the liberalisation process was the (re) abolition of the financial rand system, effective from 13 March 1995. So, the first step in the liberalization of the capital account was the relaxation of controls on outflows on non-residents. From this date onwards non-residents were able to introduce and repatriate funds, and transfer current and capital gains, without restriction.

Assuming for ease of exposition that prior to the liberalization non-resident capital entered the country through the commercial market and the principal and capital was repatriated at the financial rate, the capital account liberalization (CAL) with respect to non-residents therefore can be seen as a switch from arbitrage equation,

$$1 + i^* = \frac{f_1}{f_2}(1 + i) \quad (15')^{58}$$

to the usual uncovered interest parity relation

$$1 + i^* = \frac{e_1}{e_2}(1 + i) \quad (23a)^{59}$$

As indicated earlier the conventional wisdom regarding the scrapping of the financial rand system was that it would not occur when the financial rand discount, $f_1 - e_1$, say, was high.⁶⁰ The reason was that a unified exchange rate which settled at a significantly stronger level than the previous financial rand rate, i.e. $f_2 = e_2 > f_1$, would provide a large incentive for non-resident capital outflows. With the financial rand trading at a discount, on repatriation non-residents would receive an additive subsidy $\sigma = f_1 / e_2 - 1$. When the financial rand system was finally scrapped on 10 March 1995, the financial rand discount stood at around 8 percent.

As pointed out by Farrell and Todani (2004, p. 24), following the abolition of the financial rand, the gradual liberalisation of exchange control has proceeded smoothly until the present time. Here we briefly draw upon their survey of the more significant relaxations for residential investors, residential corporates and private individuals.⁶¹

In July 1995 the so-called asset-swap mechanism was introduced. This mechanism enabled resident institutional investors to diversify a portion of their assets abroad. Asset swaps were proposed as a means of diversifying portfolios internationally without impacting severely on reserves. The mechanism for the South African asset

⁵⁸ This is the equivalent, in 'absolute values' of equation (15) which is in natural logs.

⁵⁹ Equation (23a) is the post-FINRAND counterpart of the blocked rand (equations (3), (6), (7) and (8)), and of the securities and financial rand arbitrage equations ((11) and (15) respectively).

⁶⁰ Additional conditions that according to the SARB needed to be met were (i) a significant increase in the country's net foreign exchange reserves and (ii) a substantial reduction in the stock of financial rand denominated deposits in the banking system.

⁶¹ See FT for a survey of the foreign exchange and tax amnesty.

swaps involved qualifying institutions putting forward proposals to swap part of their existing portfolio's for the foreign assets of foreign investors, with the proposals required to 'lock in' the reciprocal foreign investment for a period of 2 years (i.e. the requirement was that the local institution ensured that the foreign counterparty or its replacement/s remained invested in South African securities [FT, pp. 24-25]).

Note that the asset swap mechanism resembles the blocked (securities, financial) rand system in that although individual resident investors could invest abroad, the mechanism was set up to prevent (severe) net capital outflows (or capital flight). This ensured that at the end of the day although the capital controls on residents were relaxed, there was still a mechanism in place to prevent residents and non-residents as a group from disinvesting from South Africa. Compare this with the blocked (securities, financial) rand system, where individual non-resident investors were allowed to disinvest from the country, but where non-resident investors as a group could not.

With respect to resident companies, FT (2004, p. 28) mention that some progress has been made in allowing them to make direct investments abroad, and raise foreign funding against their domestic balance sheets. Between 1994 and 1998, these amounted to about US\$ 10.7 billion. Current (March 2004) limits on approved investments are R 2 billion for investment into Africa (including SADC), and R 1 billion for the rest of the world.

Further, as part of the gradual relaxation of exchange controls, the concept of share placements was introduced in the 2001 budget. Also from 2003 dividends repatriated from foreign subsidiaries are eligible for an exchange control credit, which may be transferred for approved foreign direct investments.⁶² Private individuals over 18 years of age and in good standing with the tax authorities were permitted to make limited investments abroad from 1 July 1994. Initially, the limit for offshore holdings was R 200 000 per individual. This limit has since been increased on various occasions and from 23 February 2000 it has stood at R 750 000 per individual [FT (2004, p. 28)].

6.2 MARCH 1995-SEPTEMBER 2001: THE ABOLISHMENT OF THE FINANCIAL RAND SYSTEM AND FURTHER RELAXATION OF EXCHANGE CONTROLS: EVALUATION

Let us now evaluate the asset swap mechanism in a bit more detail. It is clear that if capital controls on residents are fully relaxed then they would diversify assets (based purely on return considerations⁶³) by, say, using the following arbitrage equation

⁶² Of course, there are additional exchange control regulations that apply to a sub-set of resident companies, for instance those that apply to exporters. Exporters can retain their foreign currency proceeds offshore for 30 days and then have an additional 180 days to keep the FX on a customer foreign currency (CFC) account with an authorized dealer.

⁶³ In case investors' considerations comprise risk as well as return considerations we need a more complicated arbitrage equation as (23a) and (23b) are based on risk-neutrality, i.e. domestic and foreign assets are assumed to have the same risk.

$$1 + i = (1 + i^*) \frac{e_2}{e_1} \quad (23b)$$

Equation (23b) reflects that 1 unit of domestic currency (rand) can be converted into $1/e_1$ units of foreign currency (U.S. dollar) in period 1, while in period 2 the interest and principal returns are repatriated at the period 2 exchange rate, e_2 . Note that according to this condition –ceteris paribus – resident demand for asset swaps increases (decreases) the lower (higher) the domestic rate of return i , the higher (lower) the overseas return i^* , and the higher (lower) the (expected) rate of depreciation of the Rand. Note that this equation was not relevant before July 1995, as then residents were prevented from holding foreign assets, so that there was little point in doing arbitrage calculations.

However, equation (23b) was not precisely the relevant equation for residents. The reason is that the asset swap mechanism only a portion of assets, could be diversified abroad), so a better way of analyzing this mechanism is via

$$X_1(1 + i) = (1 + i^*) \frac{X_1 e_2}{e_1} \quad \text{where } X_1 \leq y_1 W_1 \quad \text{and } W_1 > 0 \quad (24)$$

Equation (24) reflects that a maximum of X_1 units of domestic currency (rand) can be converted into X_1/e_1 units of foreign currency (U.S. dollar) in period 1, while in period 2 the interest and principal returns are repatriated at the period 2 exchange rate. Here $0 < y_1 < 1$ denotes the relevant share of total rand assets (W_1) that was permitted to invest offshore. Of course, if $y_1 \rightarrow 1$ equation (24) collapses to its unconstrained counterpart (23b), that would correspond with the case of no capital controls on residents whatsoever (where investors are free to up - or downscale their foreign investments as they see fit; the only limitation being their level of wealth).

Farrell and Todani (2004, p. 27) point out that although the asset swap mechanism addressed a significant problem associated with exchange control, namely the inability of South African institutions to diversify their portfolios, and was designed to protect reserves, it created a number of problems. A key issue in this regard was the compensation required by non-residents for being locked-in and enduring the administrative burden of the swap mechanism.

This can be neatly illustrated with the equations above. Suppose that based on return considerations a resident investor wants to invest 1 unit of domestic currency (rand) abroad. This means that equation (23b) becomes an inequality, and reads

$$1 + i < (1 + i^*) \frac{e_2}{e_1} \quad (23b')$$

This expression indicates that residents want to invest offshore, as they will reap a greater return there, then onshore. However, a closer look at (23a) and (23b) reveals that these equations are in fact identical, the only difference being that the first is formulated from the perspective of non-residents and the second from the viewpoint

of residents. This means that if **(23b')** holds, indicating that residents want to invest offshore - that is not in South Africa – non-residents will be unwilling to invest in South Africa as well, as the return profile favours their own region (from his perspective onshore), i.e.

$$1 + i^* > \frac{e_1}{e_2}(1 + i) \quad (23a')$$

So, based on return considerations only, the asset swap mechanism is inherently problematic. The point is that there is one and one arbitrage relation only, relevant to both resident and non-resident investors. In the version here it is generally impossible to get a match, i.e. to lock in the required reciprocal foreign investment matching the initial offshore investment of residents. The reason is simple; when residents want to invest in the US, say, non-residents (US) investors will be unwilling to invest in South Africa and vice versa. This appears to be a serious flaw in the architecture of the asset swap mechanism.

Of course, to be more precise, one would have to reason based on **(24)** instead of equations **(23a)** and **(23b)**, but the argument would be exactly the same. If a resident investor wants to invest $X_1 \leq y_1 W_1$ rand offshore, guided by

$$X_1(1 + i) < (1 + i^*) \frac{X_1 e_2}{e_1} \quad (24b)$$

then, a non-resident investor would want to invest the ‘matching’ dollar amount X_1 / e_1 in the US (from his perspective onshore), and not in South Africa, preventing a match and thereby preventing the asset swap taking place!

Over time the limits that resident investors were allowed to invest offshore have gradually increased, i.e. y_1 has increased over time (from 5 percent initially in July 1995 to 15 percent in November 2001). This suggests that controls on residents have gradually been relaxed. However, as indicated with the aid of the simple example above, the question is which of the constraints on outflows is actually binding: the asset limit or the reciprocal investment requirement. It is clear that in theory situations are possible where $y_1 \rightarrow 1$, so all assets are allowed to be invested offshore, but where in fact 0 percent will be invested offshore as it is generally difficult to find a match. This suggests an important difference between de jure and de facto relaxation of capital controls on residents.

Another problem mentioned by Farrell and Todani (2004, p. 27) was the following. After the abolition of the financial rand system there were no more controls on non-residents, so they were completely free to invest wherever they wanted, although of course the idea was that they should please invest in South Africa, thereby facilitating – inter alia – the realisation of asset swaps that would enable resident institutional investors to diversify their portfolios. Now, we have already argued that arbitrage equations **(23)** and **(24)** jeopardize the realization of asset swaps; based on their symmetry there can never be a match! So, starting to think from here one way to make the swaps happen (assuming a large resident demand for portfolio

diversification) would be to create a wedge between the onshore (South African) returns offered to South African and, say, US investors in South Africa.

This can also be illustrated clearly with equations (23b) and (23a). Suppose that non-resident investors get offered i^{NR} instead of i (where $i^{NR} > i$, to ‘lure in’ the foreign investment required to realize the asset swap) when they invest in South Africa, so that (23a) becomes

$$1 + i^* = \frac{e_1}{e_2} (1 + i^{NR}) \quad (23a'')$$

This implies that residents when they invest onshore realize return $i^R < i$, so that their arbitrage equation becomes

$$1 + i^R < (1 + i^*) \frac{e_2}{e_1} \quad (23b'')$$

Now, assume that in fact these two equations represent the actual truth; non-resident investors are indifferent between investing off- and onshore, while resident investors prefer to invest offshore. Then, substituting the indifference relation (23a'') into residents' arbitrage relation, this then becomes

$$1 + i^R < \frac{e_1}{e_2} (1 + i^{NR}) \frac{e_2}{e_1} \Leftrightarrow i^R < i^{NR} \quad (25)$$

Equation (25) suggests that residents will invest offshore, and that they will be able to do this within the perimeter of an asset swap – which will now be realized - if and only if $i^{NR} > i^R$. That is, the asset swap will go ahead if non-residents (foreigners) are offered a higher return on South African investments than residents (South Africans) on the same investment.

Of course, the swap now goes ahead because the symmetry between (23a') and (23b') has been broken by the appearance of what we could call a ‘dual’ return profile on onshore investments. Instead of the ‘unified’ return i (applicable to residents and non-residents equally) which prevents the asset swap to be realized, the high demand for resident portfolio diversification has created a parallel market for South African investments. Put differently, we now have a dual return system with return i^R accruing to residents and i^{NR} to non-residents. This is presumably what FT (2004, p. 27) mean when they say that:

‘A danger was therefore that the asset swaps, if popular, would undermine the role of the JSE, with a large parallel market emerging, and volumes and prices on the exchange not reflecting the true situation’

Another point to stress is that the difference between the two yields can be interpreted as a subsidy $\sigma = i^{NR} - i^R$ per unit of investment handed out to non-residents in return for investing in South Africa so as to realize the asset swap. This reminds us of other

implicit subsidies in the context of controls on non-residents, namely the blocked-, securities-⁶⁴, and financial rand systems.⁶⁵

It appears that above subsidies were (part of) the price to be paid for having systems in place that protected the official foreign exchange reserves. So, the protection of reserves came at a price, it was certainly not for free. Put more broadly, there were clearly (ex post) policy trade-offs associated with systems of exchange control (either on non-residents, residents, or both). In some cases (blocked and securities rand systems) these controls had important fiscal aspects (apart from unintentionally blocking net inflows), in case of the partial (implicit) remaining controls on residents via the asset swap mechanism they had the hidden cost of potentially distorting pricing on the domestic capital market.⁶⁶

Note that this informal dual return system is the response of the international financial markets to a problem – the inability to realize asset swaps – that was created by the specific regulations pertaining to (remaining) capital controls on residents. In this sense, we have an extremely important parallel between the (relaxation of) capital controls on non-residents, namely the blocked (securities, financial) rand system and the asset swap system. Both had the (potentially) unintended consequence of creating a parallel market; in the first case a parallel foreign exchange market, in the second case a parallel capital (stock and bond) market.

As pointed out by FT (2004, p. 27), despite the problems with respect to the required reciprocal investment and distorted capital market pricing, the asset swap mechanism achieved some success. By the time the mechanism was scrapped on 21 February 2001, R 100 billion in asset swaps had been transacted, suggesting fairly significant diversification was achieved.⁶⁷ More recently, in 2003, as an interim step towards prudential regulation, institutional investors have been allowed to invest on approval up to the foreign asset limits. Table 6.1 summarizes the discussion above.

⁶⁴ Prior to the 1978 Budget, non-residents could exit the country via the commercial rate with funds originally contracted at the blocked (securities) rate. More specific, the subsidy for each unit of interest and capital invested was equal to $\rho - 1$, where $\rho = b/e$ is the blocked (financial) rate discount versus the commercial rate. Thus, the blocked and securities rand system subsidized capital inflows, i.e. the systems subsidized international lending.

⁶⁵ The consensus on the scrapping of the financial rand system was that it would not occur when the financial rand discount, $f_1 - e_1$, say, was high. The reason was that a unified exchange rate which settled at a significantly stronger level than the previous financial rand rate, i.e. $f_2 = e_2 > f_1$, would provide a large incentive for non-resident capital outflows. If this situation were to occur, it would resemble the situation prior to the 1978 Budget (see previous footnote), then the relevant subsidy, σ , would be $f_1/e_2 - 1$.

⁶⁶ Note that pricing on the domestic capital market was also seriously distorted under the blocked-, securities and financial rand systems, as the financial rand discount was a direct consequence of a locally overvalued capital market brought about – inter alia - by preventing residents from investing offshore, thereby artificially inflating prices on the JSE.

⁶⁷ Since February 2001, institutional investors have been allowed to acquire foreign portfolio investments up to certain limits by way of foreign currency transfers based on a percentage of the previous year's inflow of funds.

Table 6.1 Effects of the Abolishment of the Financial Rand System and Further Relaxation of Exchange Controls

Intended Consequences	Unintended Consequences
1. Abolition of the financial rand system entended the relaxation of controls on outflows on non-residents. From 13 March 1995 <u>non-residents</u> were able to introduce and repatriate funds, and transfer current and capital gains, without restriction.	
2. Gradual relaxation of controls on <u>residents</u> via the <u>asset-swap mechanism</u> . This mechanism enabled resident institutional investors to diversify a portion of their assets abroad, while at the same time preventing capital flight, and thus protecting the country's reserves. Although individual resident investors could disinvest from South Africa, because of the requirement of reciprocal investment, residents and non residents <u>taken together as a group</u> could not.	1. <u>Required reciprocal investment was not always easy to find</u> , hence it could prove difficult to realize the swap.
	2. The asset swap mechanism entailed a substantial <u>administrative burden</u> .
	3. If based on return considerations alone, the required return profiles of resident and non-resident investors makes consistency of those –and thereby securing the reverse investment flow (necessary for a swap) very difficult.
	4. Because of point 3. above there could be a substantial difference between the de jure (say, potential) and de facto (actual) ability to implement asset swaps and diversify assets.
	5. Given large demand for swaps and the problems with respect to matching (see 3.) there was the danger of the emergence of a parallel capital market (implying dual returns), thereby distorting pricing on the domestic capital market.

7. CONCLUSIONS

We are now ready to make some final remarks on South Africa's experience with capital controls and the implications they had for monetary and exchange rate policies.

Starting with the blocked rand system, the objective was to insulate the capital account of the balance of payments from capital outflows, insulate the exchange rate of the rand from said outflows, and to provide more effective protection for the foreign reserves from capital outflows.

Unintended consequences of the blocked rand system were : (1) the emergence of an offshore parallel foreign exchange market, (2) the emergence of a discount between the blocked and commercial rand exchange rates, (3) damage of the country's image abroad – at a time when the attachment to fixed exchange rates was strong – because the discount might cast suspicion on the maintenance (affected the 'credibility') of the official exchange rate of the rand, (4) the discount created a 'currency premium' which raised the cost of debt for the South African economy, (5) perhaps most important of all the controls on outflows implied serious implicit quantity restrictions on capital inflows that would have boosted the country's foreign exchange reserves,

(7) potential investors (non-residents that considered to invest in, say, SA equities via the blocked rand market) found the mechanism to be cumbersome and could therefore be discouraged from proceeding, (8) the system ended up subsidizing international investors, (9) there was a very substantial degree of institutional inertia; when the system was introduced in 1961, the controls were meant as a temporary crisis measure and (10) the presence of exchange controls on residents enabled the SARB to target domestic interest rates via FX market interventions in the commercial market. This provides an early rationale for anchoring monetary policy via the exchange rate, rather than via domestic interest rates.

From 2 February 1976 the securities rand system became operational; a system that was supposed to 'repair' some of the defects (or unintended consequences) of the blocked rand system. The objective was to boost overseas interest in the Republic as an investment outlet (to encourage direct foreign interest in local shares), and the way the authorities wanted to achieve this was by officially recognizing the securities rand exchange rate. This had the added advantage of allowing the authorities to intervene in the securities rand market. In addition, by official recognition of the parallel market it was felt that offshore (London) trade could be redirected to Johannesburg. Further, it was hoped that the increased portfolio investment into South Africa would increase the official foreign exchange reserves.

However, here as well there were quite a few unintended consequences: (1) the securities rand market was not sufficiently liquid enough to smoothly absorb sizeable interventions, (2) the relocation of trade from London to Johannesburg – the 'promotion of Johannesburg as a financial centre' – did not materialize. As before there was a large discount between the securities and commercial exchange rates that inhibited non-resident investment through the official market and hampered increasing foreign exchange earnings, (3) with the securities rand at a discount to the commercial, SA borrowers sometimes had to repay at the securities rate existing loans originally contracted at the official rate, this increased the cost of capital for the South African economy.

In turn the securities rand system transformed into the financial rand system in January 1979. The financial rand system was 'an updated version' - so to speak - of the securities rand system. The envisaged developments were to extend the uses that non-residents could make of the securities rand and to support the commercial market by designating loan funds as commercial market transactions. In addition to the intended consequences already stated in the context of the blocked- and securities rand system, the authorities wanted to have a temporary system; it was supposed to be an intermediate step on the road to a unified managed float for the rand. Also the system was meant to dampen commercial exchange rate variability.

In terms of unintended consequences - in addition to the dismal features this system shared with the blocked and securities rand system such as the impossibility to enjoy net capital inflows via the financial rand - we can mention that again there was a very large degree of 'institutional inertia'; although meant as a temporary measure the dual exchange rate system lasted (interrupted between 1983 and 1985) until March 1995. Further, although commercial exchange rate volatility was indeed lower under the FINRAND regime than under the floating regime, say, of 1995:3-1998:10, this comparison is not very meaningful because (i) the commercial rate was most probably

substantially overvalued, and (ii) this floating regime was a crisis (high volatility) regime, which is flattering for the control regime (not a good benchmark for comparison).

In March 1995 the financial rand was scrapped, and the two exchange rates were unified. However, even the capital account liberalization period March 1995-September 2001 was not without problems (apart from the two serious currency crises that were experienced in this period). The idea behind the liberalization was to scrap most of the controls on non-residents, who were now able to introduce and repatriate funds, and transfer current and capital gains without restriction. The gradual relaxation of the controls on residents – especially on resident institutional investors – was implemented via the so-called asset-swap mechanism. This mechanism enabled resident institutional investors to diversify a portion of their assets abroad, while at the same time preventing capital flight, and thus protecting the country's reserves. To paraphrase the financial rand system, although individual resident investors could disinvest from South Africa because of the requirement of reciprocal investment, residents and non residents taken together as a group could not.

The problems or unintended consequences associated with especially the asset-swap mechanism were: (1) the required reciprocal investment was not always easy to find, hence it could prove difficult to realize the swap, (2) the asset swap mechanism entailed a substantial administrative burden, (3) if based on return considerations alone, the required return profiles of resident and non-resident investors makes consistency of those –and thereby securing the reverse investment flow (necessary for a swap) very difficult, (4) because of point (3) above there could be a substantial difference between the de jure (say, potential) and de facto (actual) ability to implement asset swaps and diversify assets and (5) given large demand for swaps and the problems with respect to matching (see (3)) there was the danger of the emergence of a parallel capital market (implying dual returns), thereby distorting pricing on the domestic capital market.

As mentioned earlier, the presence of exchange controls on residents and non-residents dating back as early as 1961, enabled the SARB to target domestic interest rates (and or the exchange rate) via FX market interventions in the (commercial) foreign exchange market. This provides an early rationale for anchoring SA monetary policy via the exchange rate, rather than via domestic interest rates.

This suggests not only that the capital controls themselves exhibited substantial institutional inertia, but that this same institutional inertia also applied to the monetary policy regime. A plausible reason for this is that for most of the 20th century in South Africa (partial) capital controls and exchange rate based monetary policies were like Siamese twins; almost impossible to separate.

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